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LONDON MEDICAL GAZETTE.

NEW SERIES.

VOL. I.

FOR THE SESSION 1838-39.

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THE

London

MEDICAL GAZETTE;

BEING A

Weekly Journal

OF

MEDICINE AND THE COLLATERAL SCIENCES.

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OF

Medicine and the Collateral Sciences.

SATURDAY, SEPTEMBER 29, 1838.

LECTURES ON SURGERY,

DELIVERED AT ST. THOMAS'S HOSPITAL,

BY THE LATE MR. CLINE;

With Notes.

[THESE lectures were written by Dr. Wilkinson when attending Mr. Cline's lectures, in the years 1787-88-89.

Extract of a letter from Dr. Wilkinson, dated Feb. 6, 1838:—"They (these lectures) are the results of six courses of lectures I attended at St. Thomas's, in 1787, 1788, and 1789; and I am in hopes I did not omit any interesting part of Mr. Cline's valuable observations. The one I had the pleasure of giving you is the repeated corrected copy."]

LECTURE I.

Considerations and Precepts with regard to Operations — Classes into which Operations used to be divided—Modes in which Union is effected — Impediments to Union — Foreign Bodies—Poisoned Wounds (Hydrophobia) — Different kinds of Sutures—The Interrupted Suture—The Quilled Suture (Cæsarean Section)—Uninterrupted Suture—Gastroraphe.

IN every complaint where an operation is required there may be something in the disease to render the operation improper, not only from the state of the part, but from the state of the patient's constitution. The state of the patient's mind should also be attended to, on which depends our success in a great many operations; for some are so timid, that they become so much depressed on our performing a capital operation on them, that it is impossible to support the powers of life; of which I had a very remarkable instance in a patient who had her breast amputated—not usually a hazardous operation. She expired within an hour after, without any loss of blood, and having had no previous indisposition, only a prodigious reluctance to the performance of the operation. Another remarkable case I heard of in a gentleman who was supposed to have the stone. Desirous of being sounded, this was done for him; and on being informed that there was a calculus, he was exceedingly struck, and said he should never survive. In about five hours afterwards, though there had been no previous indisposition, he expired. When the state of the patient's mind seems to be unfavourable, it is not the mere expression of a fear of the pain that we need apprehend, but the idea of which they are prepossessed, that they shall die under the operation, or very soon afterwards; for some are very apprehensive of the pain they shall suffer during the operation, but are not afraid of their life,—this is not so material.

Before any capital operation is performed, the patient or his friends should be apprised of every circumstance respecting it, as far as concerns themselves, whether it be hazardous to life or to the part (for in all capital operations there must be some uncertainty in the event); then, of course, the friends are satisfied even if it be not attended with success. In many cases it may be improper to tell the patient himself all the hazard he runs; still the friends should be apprised of it. On this account it is preferable to have a consultation before any capital operation is performed, as the event is so uncertain; thus you will not be so liable to censure if any thing unfortunate should occur. It is also better for a surgeon not to undertake any operation alone, though ever so able; for if unassisted, and any thing unfavourable turns out, the parties will be apt to think it was not done in the best manner: this more particularly regards private practice. Before we operate we should consider every circumstance of the case

previously in our minds, which is often attended with considerable advantage, and probably we will be much less embarrassed if any thing unfavourable turns out, than if it had not been thought of before, particularly with such as are not in the habit of operating. Likewise, before the operation every thing necessary should be at hand, otherwise perhaps in the middle of it something is wanting which cannot immediately be had, and which retards the operation, is very distressing to the patient, and even sometimes dangerous. Those who are not in the habit of operating should endeavour to operate slowly, *not considering the time it shall take, but in what way it can best be done:* every one, indeed, ought to do this. An operation is always well performed provided it is well executed, be the time what it will. In operations where the most mischief has been done, it has been always with the aim of getting it speedily finished. Sometimes unforeseen accidents occur, which those not in the habit of operating have not before seen. In such cases it is necessary sometimes to pause in the middle of an operation, and consider what should be done. The agitation which takes place in many during an operation is in some degree constitutional; it happens almost to every one at the first operation. There is a natural horror in the idea of cutting living flesh; however, by the frequency of operating, and endeavouring to perform slowly, it may be in a great degree removed, though often not entirely.

Surgical authors, in treating of operations, very frequently divide them into classes, particularly the ancients; and Le Dran is the last of them who has followed this method. He divides them into four classes or heads, viz. synthesis, diæresis, exæresis, and prothesis, including under these all the operations in surgery. By synthesis is meant all such as tend to the union of parts, as in making the various sutures in the operation of the hare-lip; also, the replacing of parts which have been displaced, as in herniæ. Diæresis is the separation of parts that were united, as in every incision. Exæresis is the complete removal of parts, as in amputation, lithotomy, extracting cataracts, removing tumors, &c. Prothesis signifies the adding of parts to the body; but this is merely a mechanical performance, except in one instance, viz., the transplanting of teeth. This general division does not seem to be attended with any advantage, or to assist at all in the explanation of the subject; therefore Mr. Sharpe, who has written well on this subject, has entirely laid it aside—a plan which others since him have followed. In our description we shall begin with the more simple, then proceed to the more complicated operations.

Before we proceed, it will be necessary to say how parts separated from each other become united. When a wound is made in any part of the body, from the divided vessels immediately issues forth some blood, which soon coagulates, and this coagulum adheres to the surface of the wound. If the two divided surfaces are brought into contact union will take place between the two, from adhesions of the coagulable lymph to them; however, not sufficient to hold the parts together, unless it is assisted by some artificial means. After having remained so for some time, it will become gradually vascular, so as to produce a communication of vessels between both sides. This is called union by the first intention, which in most cases is generally advised to be aimed at in most wounds. But very often a surgeon is not applied to until all hæmorrhage has ceased, and at a time when the blood which had been effused on the surface has been separated from the part, so as to leave no coagulum. When this is the case, union may still be attempted by the former means, because the extremities of the divided vessels are pouring forth serum and coagulable lymph, which last coagulates with greater firmness than the blood which proceeded from the recent divided vessels. The parts being held together for the purpose till the coagulable lymph becomes vascular, will produce union equally firm and as perfect as in the first instance. This is still considered as union by the first intention, as it makes very little difference in the union. When the vessels have entirely ceased bleeding, and the coagulum has remained some time exposed, it will be better to sponge it away, and bring the parts in contact, leaving them to unite by the coagulable lymph thrown forth afterwards. Sometimes surgical assistance is not called for till the inflammation is abated, till the union by coagulable lymph is lost, and the wound is throwing forth pus, in which case any attempt at union would be ineffectual. Suppurative surfaces will not unite; if the parts, then, are brought so perfectly in contact as to prevent the pus from escaping, it will form a cavity whereby the parts will be rather enlarged, than union facilitated. We must wait for the formation of granulations, then the surfaces may be brought in contact so far as is admitted of without confining the pus within the wound. However, in these cases, where there are such granulations, and a cicatrix is the consequence, the deformity is not so great as might be expected, as there is a power in the gra-

nulations and cicatrix itself to contract. Under these three different modes of union, either by recent blood, coagulable lymph, or by granulations, wounds are frequently united, but the two former are the most to be wished.

There are several circumstances which are unfavourable for union, even where assistance is called for immediately after an accident; as where there is any extraneous body within the wound, as glass, &c.; for though the parts may be brought in contact, and a temporary union produced, in a short time the extraneous body would produce irritation, inflammation, and suppuration, and give occasion to open the wound again, which will be much larger than if it had been left open. If you have any reason to suppose there is a foreign body, you should examine, which is always best done with your finger, if the wound will admit. The same is applicable in almost all gun-shot wounds, in most instances of which there is some extraneous body lodged, as the ball, and perhaps some of the clothes of the patient; in such cases, bringing the parts together will only occasion larger suppurations. These ought to be removed, if it can be done safely and conveniently. If you cannot come at the extraneous body, it is better to leave it to nature, for we find that although gun-shot wounds are often kept open for months, sometimes years, owing to such extraneous substances, nature is gradually attempting their removal. Sometimes they are open through life without inconvenience. Another objection to the union of parts is, where they are considerably contused; union cannot be effected, for these parts being rendered dead by the lacerated state they are in, they are to be considered as extraneous bodies, which makes union here highly improper; on which account gun-shot wounds, independent of any extraneous bodies lodged within, as the wadding of the gun or the patient's clothes, are deemed unfavourable for union. Union is also objected to, where poison has been inserted by the bites of venomous animals, which is not so much the case in this country, though very frequent in hot climates. At the time of the bite or poison being otherwise inserted in the parts, we should attempt to clean out the wound, and remove as much of the poison as possible, leaving the parts separated. The only instance in this country where a bite is attended with any danger, is that from a mad dog; here the part ought to be entirely removed, either by caustic or incision, rather than union effected: however, such a wound may be received on so unfavourable a part that an operation cannot be performed, as through the cheek or eyelid; of which last I have seen an instance in a girl. The wound was very troublesome, and, after being six weeks in the hospital, she was seized with the symptoms of hydrophobia, and expired in about forty-eight hours. In such cases you may very safely wash the surfaces of the wound with caustic alkali; which, if carefully done, will in all probability remove the poisonous matter inserted, washing it off almost immediately afterwards. The removal may be adopted some time after the wound has been received, probably not only days, but even, with safety to the patient, some weeks after; for there is reason to believe that the absorption of the virulent matter does not take place for several weeks, seldom less than three weeks, and often not under several months: it usually occurs between three and six weeks. The wound will apparently heal up favourably, but some time after the accident the patient complains of a pain, with numbness in the part. This part inflames, and in some instances has ulcerated again. Soon after the pain has taken place the patient is affected with hydrophobia. It is the same with other poisonous matters, as the venereal and variolous, where the absorption is known from the pain in the neighbouring parts. The saliva of a mad dog remains for some time dormant in the part. It seems as if it lay for a length of time unchanged, and then began to stimulate the part. As this seems to be probable, the part being removed any time before the absorption will prevent the symptoms. Where we have an opportunity of removing the part, it should be done as speedily as possible.

In lacerated wounds, union by the first intention may be attempted: they may, I am fully convinced, be safely brought in contact with each other; for where there is laceration there is not always that degree of contusion by which sloughs are formed, for if parts have not lost their living power, union will often be effected. Of this we have frequent instances of the scalp forming a large flap, which, being brought on to the surface from which it had been before separated, and the edges of the wound kept in contact, will be all united in a few days. A needle is a dangerous weapon, as large blood-vessels, tendons, &c. may be wounded, and the latter included in the ligature; hence the action of the muscle is impeded or destroyed.

The sutures now described by modern authors are only four—the *interrupted*, the *quilled*, the *uninterrupted*, and the *twisted*.

The interrupted suture is most commonly used, and is applicable in the greater number

of cases; it is so called from its being usual to divide the thread every time the needle is passed. We use a crooked needle, with a single thread (several threads forming one waxed into a flat form); the broader the surface the easier to the patient, and not so soon producing ulceration in the part*, it therefore holds them better in contact. The size of the needle should be proportioned to the size of the wound. Sutures are used much less by the modern surgeons than they were by the ancients, for it is found in many case that by placing the limb in a proper position, wounds may often be united by adhesive plaster and compresses. There are parts in the body which would not be properly supported except by these means — as the lips, where the muscles are very strong; the same with the eyelid, if slit from the edge upwards. In such cases, except by ligature, it would be difficult to keep the parts in contact, which I have attempted ineffectually also in the tongue.

We take a needle of a convenient size, and (except in some particular instances) carry it completely to the bottom, to bring the interior surfaces into contact. The distance of the ligatures should be in proportion to the depth of the wound; the distance from the edge should be half of the depth, bringing out the needle at the same distance on the opposite side, cutting off the ligature of sufficient length to tie over the wound in a slip knot. We may begin either in the middle, or at one end: if we use three ligatures we may as well begin at the middle; if more, at one end, gradually proceeding to the other. The distance from each other may be about an inch—sometimes less. The division of a lip of two inches in length would require two or three ligatures to keep the parts in contact. When a wound is very deep, it might be difficult to cause a single thread to pass it to the bottom of the wound, and bring it out at the opposite side. Where this is the case, it would be better to take a ligature with a needle at each end, beginning from the inside of the wound, by which means you would have the ligature in the same way, only passed at twice. When all the ligatures have been passed, having removed every extraneous matter, the edges should be brought in contact, and held there by the assistant while they are tied. Some advise laying lint or plaster under the ligature, to prevent excoriation; however if the ligatures are of a proper breadth, that is unnecessary. The knots should be made on one side of the wound, if over it they produce irritation and pain; a slip knot will be most convenient, so that if much tension comes on, the ligature may be slackened without cutting it. It may be covered over with a bit of lint and common adhesive plaster, to give further support to the parts. In a few days tolerable union will be produced; and as soon as we have reason to believe the surfaces of the wound to be united to each other, as in four or five days at most, the ligatures should be removed, which being done, the parts may be supported with sticking-plaster a few days longer, when union will be quite completed.

The quilled or bougie suture, so called from quills or bougies being used to make it; also peg or loop suture, from the ligature being looped. Mr. Sharpe observes that it is never of any use; that the interrupted is superior to it in all cases; however I think there are some few instances in which this suture is preferable, as where you want to bring a wound in contact which exposes a large cavity, as that of the abdomen. This is done in the Cæsarean operation, rarely performed in this country, where it is considered as not justifiable, if the child can be delivered by any possible means, even by pieces; though in some countries, as France, the mother's life is hazarded more frequently for that of the child. We are sometimes under the necessity of performing it. It consists in making an opening into the cavity of the abdomen to open the uterus. The part for this opening may be on either side, or in the middle. The French surgeons, who perform this operation oftener than we do, generally make the incision on one side, on the linea semilunaris, and they prefer the opposite side to that to which the uterus leans, as it is supposed that this inclination to one or the other side depends on the situation of the placenta, and the placenta is a considerable impediment to the performance of the operation from its increased thickness, and numerous vessels which we would wish to avoid. I believe the uterus does incline to the side on which the placenta is situated, but that is not constant; and from the situation of the epigastric artery, I think, on the whole, the incision made on the linea alba would be preferable, where you would have an equal opportunity of avoiding the placenta*. It may begin directly below the navel, and be carried five or six inches downwards towards the pubes, the incision being carefully carried quite through the abdominal parietes; next

* The general opinion, at the present day, is that small round ligatures are better than broad flat ones.—C.

* Three cases have been lately recorded of the Cæsarean operation having been performed on the continent. Two by Dr. Göttsche, one being successful; the third was by M. Ackens, and was also successful. In all these instances the incision was made through the linea alba.—C.

an incision is to be made through the uterus of sufficient length to bring out the child. I once performed this operation on a woman who had just died of apoplexy, where the child shewed some small signs of life. After the child is extracted, all that is to be done is to bring the edges of the wound in contact. The quilled suture consists in carrying a double ligature in the same manner as the interrupted, about half an inch distant from the sides of the wound only, through the integuments and cellular membrane, being careful not to include the peritoneum, which would certainly excite inflammation of the parts. Having passed the ligature through once I make a loop, passing the second about an inch from the first, leaving a loop, I then pass a piece of bougie through each of them; separating the double ligatures on the opposite side, between which also a piece of bougie being laid, is included by slip knots. From the manner in which the sutures are made here, we have a broader surface for pressure than in the interrupted suture. The bougie makes equal pressure throughout the whole length of the suture; in the former the pressure is only where the ligatures are situated. This suture has one inconvenience attending it; though it brings the whole surface of the wound into contact, it does not close the outer lips as the interrupted suture, but does this only in an inconsiderable degree; when, however, the cellular membrane is brought in contact, there is no doubt of perfect union being effected. In deep-seated wounds it will be unfavourable, as it will not bring the outer surfaces in contact. It might be applicable to a large joint involving the capsular ligament: there it requires a large surface to be pressed on, and the needle need not be passed to the bottom of the wound, in which case the quilled suture would be better than the interrupted.

The uninterrupted (from the ligature being carried from one end of the wound to the other without dividing it), called, also, the Glover's suture, is never used now on the living subject*, only in sewing up dead bodies. A straight needle with a single ligature is passed, beginning at one end from the inside outward, then back again on the opposite side, always carrying the needle to the inner side and bringing it out at the opposite, at small distances from each other, which makes it appear neater; towards the end the needle should be passed through, forming a kind of knot, and if the needle is passed under the integuments, neither the end nor beginning of the ligature is seen. It has been sometimes used in the living subject, as in the face, but is usually attended with considerable pain and much deformity afterwards.

Authors, when they speak of sutures, speak of an operation called *gastroraphe*, applied to the sewing up of the intestines; this, however, is very rarely necessary; it is only requisite in those cases where a penetrating wound is made into the cavity of the abdomen from which the intestines have protruded, one of which has been wounded, as might be done with the broad sword in engagements between cavalry. The piece of intestine should be sewed up, as may very conveniently be done by the uninterrupted suture passing from without inwards, instead of from within outwards, over the intestine each time, by which the ligature is every time bent over the edges of the wound. Having gone through the whole length, the ends of the ligature should be gradually twisted together. When the aperture of the intestine is thus closed, it should be replaced into the cavity of the abdomen. It might protrude from so small a wound as to be with difficulty returnable. That portion, therefore, which is sewed up should be last returned, and placed near the wound, leaving the ligatures hanging out; then the edges of the outer wound should be brought in contact close upon the ligature, that they may unite in every part except where the ligature hangs out. These ligatures should be left in for some days: when the colicky sensations of the patient indicate that union has in some degree taken place, they should be untwisted and carefully withdrawn, which will only leave the small apertures through which they passed. The patient should be kept on low diet; the ligatures should be well waxed, that they may slip through the intestines with greater ease. Le Dran has mentioned another kind of suture for this purpose, to be made with three needles and three ligatures, more or less, according to the length of the wound. The edges of the wound are to be brought in contact, and the needles passed from side to side, each of the ligatures to be twisted separately, and the whole twisted together, leaving it to hang out at the wound. When union is supposed to be effected, they are to be untwisted and withdrawn one after the other. This but very rarely occurs: even among the cavalry, where it would be more likely to happen, there have been very few instances of the operation having been performed*.

* Mr. Lawrence relates a case in which it was used with advantage in an extensive wound of the abdomen, caused by the tusk of a boar.—C.

* Mr. Lawrence, in his excellent work on Hernia, mentions five cases in which sutures have been used in wounds of the intestines with perfectly successful results.—C.

If it should, the success would be very doubtful; for when you are under the necessity of having ligatures situated within the cavity of the abdomen, they will be liable to produce inflammation of the intestines and peritoneum, which would most likely prove fatal.

We also find authors speaking of sutures of tendons. As ancient surgeons supposed tendons incapable of uniting by themselves, it was directed that they should be exposed, and their extremities brought in contact. We now find the tendon is a part which will unite as perfectly as any other, though not so speedily as more vascular structures, therefore in such cases we have only to attend to the position of the limb, that the extremities of the tendon may be brought as perfectly in contact as possible. Here, too, great rest is rather unfavourable than otherwise, as in divisions of the tendo Achillis, where it would be better to direct the patient to walk about after the inflammation has subsided; the very attempt at muscular action will produce a firmer union than otherwise would have happened. As the tendons become longer by being thus separated, the muscles become shorter, and therefore lose their extent of action; hence we should keep the extremities of tendons as near as possible.

CLINICAL LECTURE

ON

DISEASES OF THE HIP-JOINT,

Delivered at St. George's Hospital,

BY SIR BENJAMIN C. BRODIE, BART.

LECTURE I.

THERE are several cases at present in the hospital of diseased joints, and among these some of disease of the hip; and I do not know that I can offer any subject to your consideration better than this. It is one of great interest, and it is very important that you should understand it as far as the actual state of our knowledge will enable you to do so.

I remember the time when the question, on looking at one of these patients, would have been, whether there were or were not a diseased hip, and the surgeon decided, according to the best of his ability, in the negative or in the affirmative. It was just a case of diseased hip, or it was not, and there was no further attempt at diagnosis. But you know that the hip-joint is composed of a great variety of textures, and that diseases of it must arise from various causes. It would be very remarkable if the hip-joint differed from all the other organs of the body, and was subject to only one kind of malady. You cannot for an instant hesitate to believe that there must be a variety of diseases of the hip, the difference between them depending partly on the organization of the part in which the disease began, partly on the patient's constitution, and on the external causes by which that constitution has been influenced.

In my treatise on the "Diseases of the Joints," I have given an elaborate history of the diseases to which this and other joints are liable, and I have detailed many cases, and described many dissections, from which I thought I was justified in deducing that history. But in the present lecture I do not propose to pursue the course which I have followed in my treatise. My observations will be confined to the hip-joint only. I shall probably refer to other joints sometimes, but it will be only with the view of illustrating what happens in the hip. It will be my object to bring before you at once the different diseases to which the hip is liable, and the symptoms by which they are to be distinguished in the living body. Perhaps by pursuing this course I shall make the subject more easily comprehended by you than it would be if you were simply to read my treatise. At any rate, this mode of proceeding will enable you to understand the observations which I published, when you read them, better than you would understand them otherwise.

Inflammation of the Synovial Membrane.

There is no disease of the joints more common than inflammation of the synovial membrane. The hip is liable to this disease, but it must be acknowledged that it is not liable to it in the same degree with some of the other articulations. You will understand how this may be explained when I tell you that inflammation of the synovial membrane, in a large proportion of cases, may be traced to exposure to damp, or cold and vicissitudes of temperature. The hip is warmly clothed by numerous muscles; an immense mass of flesh lies over it; and thus it is protected from one of the causes which produces inflammation of the synovial membrane, much more than the knee, the wrist, the ankle, and the other joints that are superficially situated.

I conceive that the proper course for you to pursue, if you would study the pathology of any part of the body, is this: be not satisfied with examining the morbid appearances in the last stage of the disease, when all the parts are confounded, as it were, together in one diseased mass—when the disease has extended from the structure primarily affected to the other

parts—and when you cannot, therefore, say where it originated, and what it was in the beginning. Be on the look out for the opportunities which must occasionally occur of examining the morbid appearances, where the patient has died from some accidental cause in an early stage of his complaint; this, I say, is the way in which the pathology of any part of the body (that is, so far as morbid anatomy is concerned) should be studied; and it was in this way that I have always endeavoured to study the diseases of the joints.

I have had very scanty opportunities of examining the morbid appearances presented by inflammation of the synovial membrane of the hip in its earliest stages; but this deficiency has been compensated by the abundant opportunities which I have had of examining the same thing in other articulations, so that I have no doubt that I can tell you very accurately what the morbid appearances would be in the hip if you could see them.

In slight cases, then, of inflammation of the synovial membrane, you find a few more vessels than usual injected with red blood ramifying over the inner surface of the membrane, and the joint contains a larger quantity of synovia than under ordinary circumstances. The synovia, in the cases to which I now refer, does not differ from healthy synovia in any of its sensible qualities. But when inflammation of the synovial membrane runs high, you will find great increased vascularity of the whole of its texture; the red vessels being as numerous as those of the conjunctiva of the eye in a severe ophthalmia: and now the joint contains fluid of another character; not synovia, but a turbid serum. Not unfrequently there are small shreds of coagulated lymph floating in the serum, or broad flakes of lymph lining the synovial membrane in different parts. In protracted cases the synovial membrane is thickened, and you will see in this preparation a sort of pendulous processes, projecting from it into the articular cavity, like what is called chemosis in the eyelid.

In a more advanced stage of the disease, the morbid appearances are not confined to the synovial membrane; the cartilage is found to be thinner in certain places, or totally destroyed by ulceration. In this drawing [presenting it] you see the incipient process of this ulceration; and in these others it is in its more advanced stages. As the cartilage becomes completely absorbed, so a carious surface of the bone beneath is necessarily exposed.

I have said that inflammation of the synovial membrane terminates in effusion of lymph and serum, but it sometimes terminates in suppuration; the surface of the synovial membrane secreting pus in the same way as pus is secreted by the surface of a mucous, and occasionally of a serous, membrane. The joint, when under these circumstances, becomes one large abscess, and if a free artificial opening be not made at an early period, the matter makes its way out by ulceration, through the synovial membrane and ligaments, burrowing among the muscles in the neighbourhood, and forming sinuses. In these cases of suppurative inflammation, the cartilage in the first instance is unaffected, but that in contact with the pus soon begins to ulcerate, and the ulceration of the cartilage, of course, is followed by ulceration or caries of the bones. Here the suppuration is the immediate result of the inflammation of the synovial membrane, and the ulceration of the cartilage and bones is altogether secondary. But then there are other cases where the cartilage begins to ulcerate without pus having been secreted by the synovial membrane, and in which suppuration at last takes place, being not the cause but the consequence of ulceration of the harder textures.

Such is a brief history of the pathological changes produced by inflammation of the synovial membrane in joints generally, and of course in the hip-joint among the rest. I shall next speak to you more particularly of the symptoms of the disease as it affects the hip.

In the first place, then, inflammation of the synovial membrane of the hip is a disease that comes on suddenly, and in the course of two, three, or four days it is commonly at its height. You must remember this circumstauce, and contrast it with what I shall tell you afterwards of the early symptoms of other diseases of the hip. Then, in the course of a few days more, under proper treatment, the pain becomes less severe: and now observe the kind and character of the pain. The patient complains of every attempt to move the limb. The hip-joint feels as if it were stiff, and the pain is referred, not so much to the hip itself, as it is to the inside of the thigh and groin; nearly to the same parts as in cases of fracture of the neck of the femur. There is not at this period a wasting, and sometimes there is even a perceptible fulness of the nates. If you press on the condyles of the femur, and squeeze the head of the bone into the socket of the acetabulum, the patient does not complain; nor does he complain if you press on the great trochanter; but if you take the limb and move it backwards and forwards, or if you take hold of the knee and pull it as if you were trying to pull the head of the thigh-bone out of the acetabulum, then pain is felt.

You have heard of dislocation of the hip-joint from disease, and I shall explain to you one kind of dislocation from this cause hereafter. I shall speak at present of dislocation from disease only as it occurs in cases of inflammation of the synovial membrane. I have seen several instances in which dislocation took place under these circumstances, and I conclude that the following is the proper explanation of it :—The cartilage begins to ulcerate, and generally at that part at which the ligaments are inserted. The ulceration extends to one extremity of the round ligament. The acetabulum is filled with lymph and synovia, and the capsular ligament is thereby much distended. There is then, of course, a force operating, which tends to push the head of the bone out of the socket in which it is contained. The round ligament gives way partly from being overstrained and partly from ulceration, and there is nothing to hinder the head of the bone from being drawn up on the dorsum of the ilium. In the particular cases to which I now allude, according to my experience the dislocation is always upwards and outwards, and we see this indicated by the usual signs. The thigh is bent forwards, the toes are turned inward, and the head of the bone may be distinguished lying on the dorsum of the ilium. Before such a dislocation can be effected, the capsular ligament must have been kept for a longer or shorter time in a state of excessive tension ; and it will not be difficult for you to understand how much the patient must have suffered in consequence. You know what suffering there is in inflammation and effusion under any unyielding texture; under a fascia, for example, or even under the thick hard cuticle of the thumb or foot. The patient suffers more from tension when the hip-joint is distended with synovia, or serum, or pus, than when the same thing happens to any of the other articulations. And for this plain reason: the capsular ligament surrounds the synovial membrane every where in the hip-joint, which is not the case in most others. In the knee, for instance, when the synovial membrane is distended, the fluid covered by the membrane usually slides up on the fore part of the thigh, under the muscles. Not only great local suffering, but great constitutional disturbance, is usually the consequence of this distended state of the capsule of the hip; severe fever, attended in some instances with a determination of blood to the head, and delirium. I have known such a case as I am about to mention occur two or three times. A girl was seized with an attack of what was supposed at first to be rheumatic fever. In the course of two or three days the fever was excessive. She lay in a state of delirium for several days, and she seemed as it were to supersede the local symptoms which existed in the first instance. She nearly died, but by and by things took a favourable turn, and she recovered. After her recovery, her friends looked to the limb, and to their surprise found it very much distorted. Mr. Earle and myself saw the girl under these circumstances, and we found that the head of the bone was lodged on the dorsum of the ilium. In some cases of this kind when the head of the thigh-bone is pushed out of the socket of the acetabulum, the serous fluid which has been collected within the cavity of the capsular ligament makes its way through an ulcerated opening of it into the cellular membrane external to the joint, forming a tumor under the glutæi muscles. This tumor evidently fluctuates, and you might suppose it to be an abscess, but take care not to arrive too hastily at this conclusion. It may, it is true, be a collection of pus which cannot be absorbed; but it may, on the other hand, be a collection of serum and lymph, which may be absorbed. The grooved exploring needle (which you see so frequently used with advantage in this hospital) may be usefully employed in this case. Puncture the tumor with it. A little of the fluid will probably escape along the groove, and if you find that it is really purulent, you may then introduce a lancet, and make a free opening ; but if it be serum you will take care to go no farther. It is doubtful whether pus is ever absorbed. If this ever happens, it certainly is a rare occurrence; but an effusion of serum becomes absorbed ultimately. If you find the fluid to be serous, you have nothing to do but to leave the patient quiet, and wait for the time when absorption will have taken place. If you open a cavity containing serous fluid with a lancet, in all probability you induce suppuration, and thus make an abscess where there was no abscess before.

Such, then, are the principal circumstances respecting the pathology and the symptoms of inflammation of the synovial membrane of the hip: I shall speak of the treatment in another lecture. But before we go farther I should like to call your attention to a preparation which is now on the table, taken from a patient who died lately in this hospital. I think it not improbable, though we do not know enough of the history of the case to speak with certainty—for we did not see the disease till it was far advanced—that here the original disease was inflammation of the synovial membrane. The cartilage is exten-

sively ulcerated, the synovial membrane is rather (not a great deal) thickened, but the circumstance which leads me to suspect that the original disease may have been inflammation of the synovial membrane, is this, that the joint was filled with a number of small granular bodies, composed of coagulated lymph, and I know that in other cases these bodies are the result of inflammation of the synovial membrane. You find them sometimes in joints, but more frequently in the synovial membranes which constitute the bursæ, and sheathe the tendons. These granular bodies, after a considerable time, assume an appearance like that of small melon seeds, becoming flat and smooth, and of an oval figure. The joint in this instance contained a great quantity of these bodies, and they had caused the head of the bone to be partially pushed out of the socket. There is a groove formed in the head of the bone, where it had rested upon the edge of the acetabulum. If this patient had lived some time longer, the bone would have completely escaped out of the socket, and become lodged on the dorsum of the ilium, so that there would have been a complete dislocation. As it was, the dislocation was incomplete, or what they call a subluxation.

The chronic diseases of the hip more frequently have their origin in the harder textures than in the synovial membrane. It is very common to call all diseases of the hip-joint scrofulous, but it is also very common to call any disease scrofulous. The fact is, that in most cases diseases of the joints are not scrofulous, not particularly connected with a scrofulous diathesis; but there is one disease of the joint which is especially of this description, and of that I shall speak to you next.

Scrofulous disease of the hip.—This disease has its origin in the bony structures. It occurs most frequently in children, and very rarely after 25 years of age. We meet with it especially in those children who have a fair complexion, light hair, blue eyes, and wide pupils; and who are delicate and precocious.

If you examine the morbid appearances in the early stage of the disease, you find the synovial membrane, the ligaments, and the cartilages, quite sound, but there is a peculiar alteration in the articulating extremities of the bones. You can even cut them with a scalpel without turning its edge, there being in them less earthy matter than natural. The cancellous structure of the bone is unnaturally vascular, and a small quantity of serous fluid is to be found in the cancelli. But in a more advanced stage of the disease the bones become still softer, so that you may crush them by pinching them with the fingers; and, *now*, the cancellous structure, instead of being more vascular than natural, is less vascular, and, instead of a serous fluid, you find a yellow cheesy matter in the cancelli. The vascularity of the bone goes on diminishing, and in some parts of it the vessels become so much obliterated that the bone dies, and becomes an exfoliation. Here is a section [presenting it] of the femur and tibia, where you will see both stages of the disease. Here is another [exhibiting it], shewing scrofulous disease of the bones as plainly as it can be seen in a preparation. If these dried preparations [exhibiting them] were out of the bottles, you would be struck with the lightness of the bones, from want of earthy matter. Here is a drawing [exhibiting it] from a private patient who had disease in one hip-joint. On examining the opposite joint, in which no disease had been suspected, there was the appearance of the head of the femur which you see in this other drawing, occasioned by increased vascularity in some parts, and a deposition of cheesy matter in others. The surface of the bone next to the cartilage being diseased, you may well suppose that the cartilage itself will become diseased afterwards: and so in fact it does. The cartilage loses its very firm adhesion to the bone, and you may peel it off, and as you do so, a red vascular surface of the bone is to be observed underneath. The surface of the cartilage where you have peeled it off is a little rough. Here is a specimen [exhibiting it] illustrating what I now mention. The cartilage then begins to ulcerate. How is it that the ulceration of the cartilage takes place in these cases? The ulceration begins on that surface which is towards the bone; and as it is thus, as it were, eaten away, the space formed between the cartilage and the bone is filled up by coagulated lymph, which becomes organized. The ulceration goes on, getting deeper and deeper, till it penetrates through the cartilage, making at first a small opening, through which a probe may be passed until it comes in contact with the bone. The ulceration by degrees extends in every direction, and ultimately the cartilage becomes every where destroyed. Here is a drawing of the other hip-joint of the patient, to which I referred just now. There is a section of the head of the femur, and you see a yellow cheesy deposit within, while the cartilage has completely disappeared from the surface. As the disease makes still further progress, suppuration becomes established in the joint; but the cartilage in these, as in other cases, often ulcerates to a considerable extent without the formation of abscess. It was shewn by

Mr. Hunter that suppuration and ulceration are not necessarily connected; at least that you may have suppuration of the mucous and other membranes without their being ulcerated; and there are numerous facts connected with the pathology of the joints which establish the converse of this, shewing that ulceration may take place without the formation of pus.

I will now state the symptoms which this scrofulous disease produces in the hip. The most remarkable thing is the small quantity of pain which it for a long time produces. Indeed, the scrofulous disease of the bones when the cartilages are unaffected may exist without any pain whatever; and over and over again I have examined cases where children died affected with scrofulous disease to a great extent in one hip-joint, but where they have never complained of pain in the other hip, although the *post-mortem* examination proved that to have been affected also. Even when the cartilages begin to ulcerate there is at first only a trifling degree of pain. The disease is, indeed, most insidious in its origin. I was called to see a child, many years ago, in consequence of the parents having observed him to limp in walking for some time previously. That was all: he had never complained of pain, nor were there any other symptoms. I examined the joint, and found that I could push the head of the bone into the socket of the acetabulum, and move the limb in any direction without producing the smallest uneasiness. I took a great deal of pains to make out the case, and told the parents that if we did commit an error it was better that we should make it on the safe side, and I therefore advised them to lay the child up, as if the hip was diseased, although I was by no means certain that it was so. It was well that I did give that advice, for the next account which I had, some months afterwards, was, that there was a considerable abscess in the hip. I believe the poor child ultimately died. I have seen similar cases since, in which children have been brought to me in consequence of their limping, but without pain, and it has proved to be this scrofulous disease of the hip-joint. The disease may then go on for weeks and months, the child having some pain, but not a great deal, and very often when the relations are careless the disease is quite unobserved for a long time. But by and by the child begins to make greater complaints, sometimes of pain in the hip, but more frequently of pain in the knee, and you observe him putting its hand to the joint last mentioned. Then the pain becomes greater, but I suspect that in these cases the pain is never very considerable till an abscess is formed in the joint, and then certainly the child suffers enough. At this period it cannot bear to be moved, it lies in one position in bed, and generally twists himself round into a very awkward posture, making one hip very much bulge out, and the knees crossing each other, so that there is a great deal of deformity. The child screams from pain in the day, but he suffers chiefly at night: he wakes out of his sleep screaming, and complaining of frightful dreams. Bad dreams in children, and, I believe, in grown-up persons, generally depend upon something wrong in the physical system. That which would be pain in the knee from the diseased joint if the child were awake, becomes a frightful dream if he be asleep. You must not wonder at this when you consider that even acid in the stomach is a frequent cause of disagreeable dreams in an adult. By and by an abscess presents itself in one place or another. Sometimes it makes its way on the inside of the thigh; sometimes backwards, shewing itself behind the little trochanter; sometimes outside under the nates; and sometimes it penetrates by ulceration through the bottom of the acetabulum, into the cavity of the pelvis. In the latter case it not unfrequently bursts into the vagina or rectum; and I do not see why, in some instances, the matter should not make its way into the urinary bladder, though I do not recollect having met with an example of this myself.

When an abscess presents itself externally from this disease, there is invariably another change in the condition of the limb. It becomes shortened, and this occurs in two different ways. If the head and neck of the bone be destroyed, and especially if the margin of the acetabulum be destroyed also, it is no matter of wonder that the muscles should pull up the thigh bone, and that the limb should be shortened. Here is a drawing of the head of the thigh bone where there is only a small part of the neck left, and where a very little action of the muscles would pull the thigh bone out of the socket and lodge the remains of the neck upon the dorsum of the ilium. In these cases the limb is shortened just in the same way in which it would be shortened in a case of fracture of the neck of the femur. The toes, if left to themselves, turn outward, and the thigh may remain in a line with the trunk. But at other times the shortening of the limb takes place in another way. The cavity of the acetabulum is filled up by lymph or pus, or by lymph and pus altogether, the capsular ligament of the joint in consequence is dilated, the patient having undergone a great deal of suffering from the tense state of the capsule pre-

viously. Then the round ligament is destroyed by the ulceration which has already consumed the cartilage. The head of the femur is pushed from the joint until it passes beyond the margin of the acetabulum, and then the muscles pull it upwards, and lodge it on the dorsum of the ilium. Sometimes, when the head of the femur is dislocated, it will be nearly entire; in other cases it is partly absorbed. The dislocation is generally in the same direction, and here as in those other cases, in which dislocation arises as a consequence of inflammation of the synovial membrane; the dislocation being upwards and outwards, the limb is much shortened, and the toes are turned inward. There is one circumstance which favours the escape of the head of the femur from the socket of the acetabulum, and also favours the escape of the remains of the neck wherever the head has been destroyed; and that is, the position in which the child generally lies if left to himself, with his knee bent inwards, so as to cross the sound limb. This cannot be done without making the trochanter project on the side of the disease, and this favours the escape of the head of the bone.

There are a few cases in which dislocation takes place in another direction. I had a patient under my care who has now recovered, but who had, a few years ago, disease in the hip-joint, and there the head of the femur has been dislocated forwards. It may be felt upon the ramus of the pubes, the great trochanter being, of course, placed farther back than natural, and the toes being turned outward. The child is better off than when the dislocation is upwards and outwards. There is, it is true, a little shortening of the limb, and the child has the toes turned out, but she can walk very well nevertheless.

I need not tell you that these cases of the hip-joint, if they proceed to the last stage, are very dangerous. But why should the disease be dangerous? The hip-joint is not a vital organ. The fact is, that disease of the hip-joint is very rarely the immediate cause of death; but when an abscess has burst externally, discharging matter, and has continued to do so for a long time—when the patient has been long exhausted by suffering and night perspirations, disease takes place in the thoracic and abdominal viscera. Such circumstances are always favourable in bad constitutions to the production of disease, especially in the lungs and mesenteric glands. In like manner scrofulous persons may become phthisical when the constitution has been weakened by ague, by a course of mercury, by the venereal disease, by scarlet fever, or measles, or any thing else.

I mentioned that a great aggravation of pain takes place when suppuration is established in the joint. The escape of the head or neck of the thigh-bone from the acetabulum tends not at all to to diminish the patient's sufferings, but rather to increase them. When this has taken place the patient of course is relieved so far as the tension is concerned; but he now suffers from another cause. The head of the thigh-bone in some cases, and the ulcerated neck of the femur in other cases, coming in contact with the soft parts in the vicinity of the joint, keeps these parts in a state of irritation, and every attempt to remove the limb, even the slightest, is a source of torment.

ON THE SIGNS OF PREGNANCY.

To the Editor of the Medical Gazette.

Sir,

If you think that the following case of obscure pregnancy, where the pregnant uterus was mistaken for a diseased ovary, is likely to interest any portion of your readers, its insertion will oblige

Yours respectfully,

John Roberton.

Manchester,
Sept. 10th, 1838.

On the 2nd of November, 1837, I was requested to visit, for the first time, Mrs. ——, suffering from a feverish cold. She was about 22 or 23 years of age, of rather delicate health, and ten months married. Was informed that she supposed herself six or seven months gone in pregnancy, but that she was rather in doubt. The next day (3rd,) on inquiring if she had quickened, she replied that she had not, and gave me the following history:—

Had never menstruated regularly; was unwell, for the last time, on the 16th of April, that is, thirty weeks previously; soon after had sickness, particularly in the evening. In the beginning of May, about a fortnight after the disappearing of the catamenia, the breasts began to run, and a copious discharge of a serous kind had continued ever since. At the same time the breasts enlarged and became tender. About the beginning of July was sensible of pain and uneasiness in the belly, above the right groin; and, not long after, detected a swelling or fulness in that situation. From this period the shaking of a coach

caused distressing pain in the part; as did also the act of running up or down stairs, the latter so much as to compel her often to sit down for ease on a step. At times she could with difficulty detect the swelling, but at other times it was prominent, and easy to be felt; says she never was aware of any motion within resembling what is called *quickening*, nor of movements such as might be attributed to a child. The right foot was slightly œdematous; and when my attendance commenced, there was a sense of pain and numbness in the right limb.

Laying my hand upon the abdomen (Mrs. —— being undressed, and in bed) I readily discovered a very firm tumor, of the figure and about the size of a cocoa-nut. It was painful when pressed, and lay obliquely above the right groin, pointing in the direction of the upper and back part of the os ilium, occupying the space between the umbilicus and the anterior superior spine of that bone. It seemed to me to be an enlarged ovary, or a fibrous tumor connected with the uterus,—an impression which led me to say that it was not pregnancy. On examining the nipple, the areola was in colour unchanged, being a pale red; and the follicles, as far as I could perceive, were undeveloped*. The tumor, it may be as well to repeat, lay on the right side of the median line, the umbilicus being a *pit* as much as it is in those who are not pregnant.

In the course of a few days, as Mrs. —— continued feverish, and complained of constant and severe pain in the tumor and right limb, particularly in the night, my friend Mr. Wilson, a very experienced practitioner, was called in consultation. Mr. Wilson accordingly made an examination for himself, and reported to the family that the enlargement was not from pregnancy, but what the nature of the tumor was he could not then decide.

Up to this period I had thought the tumor to be fixed, not having observed it shift its situation; but now Mr. Wilson and myself discovered it high in the abdomen, to the right of the umbilicus, and so prominent as to admit of its being grasped by the hand and moved about: in a minute or two it would subside into its usual situation. This shifting about of the tumor we repeatedly noticed. It was firm to the touch, and painfully tender when pressed or handled otherwise than gently. On making our patient lie on the left side, the tumor fell towards that side, so as to be in part on the left of the median line; but on again turning on the back it settled, as at first, in the right iliac fossa. Complains that it moves about in the night; at which season her sufferings are the greatest. When, as she reports, the feverishness and restlessness are very distressing.

At Mr. Wilson's request I made an obstetric examination. With difficulty I reached the os uteri, for it lay at the left side of the pelvis, as high as the brim, near the left groin. The neck of the womb was full and rounded, rather than projecting.

November 20th.—At this date Mr. Wilson and I were of opinion (which we expressed to the family of our patient) that the tumor was ovarian, probably of the nature of an abscess; for the pain in it was constant, and the nights were feverish and sleepless. Her aspect also was wan and unhealthy, and she frequently vomited her food.

On the 24th of November (that is, on the twenty-second day from the period of my first seeing her), Mrs. —— was taken early in the night with unusual pains in the abdomen. When I paid my visit in the course of the following day, I did not suspect them to be uterine. In the evening she, before my arrival (Mr. Wilson being present), gave birth to a fœtus, which was shriveled, as if not recently dead, and weighed eleven ounces and one quarter avoirdupois. The after-birth followed. There was no sensible discharge of liquor amnii, as Mr. Wilson informed me.

It deserves remark that at the date of the miscarriage, Mrs. —— must have been, according to her own computation, at the commencement of the eighth month of pregnancy; and the fœtus have lain, *in utero*, dead three months and upwards.

For several days and nights subsequently to the expulsion of the fœtus, the pain and tenderness in the right side of the belly continued with distressing severity. It however gradually, though slowly, left her.

* On the second or third day after the delivery of our patient, I again examined the areola, and thought the colour had now a tinge of yellow, and that a few follicles were enlarged, though, if at all, in a very slight degree.

The watery discharge from the nipples continued for a number of weeks as profuse as ever; so profuse as, in a short time, to soak her dress unless when the nipples were covered with carded cotton or folds of flannel. From first to last its duration was little short of nine months.

These are the chief reasons which induced Mr. Wilson and myself to think that Mrs. ——'s symptoms did not indicate pregnancy :—

1st. Her not having quickened, although more than thirty weeks had expired from the last appearance of the menses; and this taken in connexion with the fact of her having experienced, from the age of puberty, habitual irregularity as respects the menstrual function.

2d. The profuse serous discharge from the nipples commencing in about two weeks after the disappearance of the menses.

This is rare at so early a period of pregnancy.* Dr. Montgomery says that when milk is secreted during pregnancy it is not to be regarded as a sign available as a guide in forming an opinion in a doubtful case, because it does not make its appearance "until a period has arrived which presents other modes of judging, less liable to uncertainty."—(See Signs, &c. of Pregnancy, p. 74). In a private communication with which Dr. M. has obligingly favoured me, he states having *recently* attended on a lady, who, in four months after her marriage (probably about three months after impregnation) had "such a copious sero-lactiscent secretion from the breasts, that she was obliged to wear folds of cotton inside her dress, to save it from being spoiled by the wet."

3d. The unaltered state of the areola. If there was a change either as respects the colour of the areola or the development of the follicles, we failed, in the first instance, in detecting it. After the expulsion of the fœtus, a knowledge of the fact that there *had been pregnancy*, enabled me to detect, as I thought, a slight change. However, the usual changes in the ordinary degree of distinctness might have existed (probably *did exist*) in the earlier months, and have disappeared, in a measure, owing to the death of the fœtus *in utero*, which event probably happened about ten weeks previously to my seeing the patient.

The fading away of the changes in the areola, after the death of the fœtus *in utero*, is a circumstance worthy of very particular attention, since in those cases where a blighted fœtus is retained for any considerable time in the womb, it must greatly lessen the *distinctness* of the signs indicating pregnancy. This is pointed out by Dr. Montgomery (and by no previous writer so far as I know), who remarks, that when the usual *changes* in the areola have been established, should the fœtus be blighted, they "soon decline and fade away."—*Signs*, &c. pp. 63 and 96.

4th. The abdominal tumor appearing not in the umbilical region, but above the right groin, in the right half of the abdominal cavity; and, just before the expulsion of the fœtus took place, rising nearly as high as the edge of the ribs; also, the umbilicus being a *pit*.

I find one case recorded by Dr. Montgomery, which has several features resembling the above:—

"Some years ago a married lady, who had menstruated for the last time on the 10th of November, came to Dublin in March, on the 21st of which month a consultation was held to determine whether she was labouring under a disease of the womb or not, as she had been previously assured by her medical attendant that she could not be pregnant, because she had not felt the child, nor had sick stomach, with which she had always been much distressed in former pregnancies. On examination, the writer distinctly felt through the abdominal parietes the limbs of the fœtus *in motion*, as did also Mr. Cusack and Dr. Marsh, and yet the lady herself had no consciousness whatever of any such sensation, nor did she *quicken* till the second week of the following month (April), and was delivered of a healthy baby on the 9th of August. In addition to considerable pelvic pain and irritation of the bladder, with very sedimentous urine, the symptom which had excited the greatest alarm in this lady's case was one which, at the time, I had never met with, but have seen two or three other instances of it since. For about a month previous to her coming to town she was occasionally sensible of

* In rare instances of diseased ovarium the breasts are tender and painful at an early stage. In some cases, likewise, milk is secreted.—*Burns' Midwifery*, 7th edit. p. 127.

pain in the right iliac region, and at the same time a firm tumor could be felt *gathering*, as she expressed it, in the seat of the pain; and both were considered as the effect of disease. During our visit this happened, and I had an opportunity of examining it, and ascertained that it arose from partial spasmodic contraction of some of the uterine fibres about the right cornu, probably having its seat in the orbicular muscle which surrounds the orifice of the fallopian tube. I kept my hand in contact with the hard tumor thus formed until it gradually relaxed and softened down, so as not to be any longer distinguishable from the rest of the uterus, which lay in the right iliac hollow. This had never occurred in any of her former pregnancies, nor did it in any of three subsequent ones."—*Signs*, &c. p. 77.

This, it will be admitted, is a most interesting case. There was, as in Mrs. ——'s case, the pain in the right iliac region, and the firm swelling; but here the resemblance ceases; for the uterine tumor was in such a condition as to allow the limbs of a *living* and *moving* fœtus to be distinctly felt through the abdominal parietes. (See also pages 108 and 109.)

5th. The rounded figure and remarkable firmness of the tumor, unlike the pregnant uterus; its high situation in the abdomen, its shifting about, its tenderness on pressure, and the dull aching pain usually experienced in it.

A case of pregnancy is related by Dr. Montgomery, where "the uterine tumor felt as hard as cartilage, and knotty all over its surface; was very painful, and exquisitely painful and tender to the touch."—Page 68. Here the tumor was not lateral in position, but situated in the centre and lower part of the abdomen.—See also page 110.

6th. The nightly attacks of fever, the pulse, even during the day, being from 86 to 90; the countenance at the same time being sallow, and expressive of ill health.

7th. The pain and numbness confined to the right limb, with œdema of the right foot.

Œdema and varicose veins are oftener found affecting the right than the left limb in the pregnant; but, according to my observation, neither the œdematous swelling nor the enlargement of the veins makes its appearance in the limb, in a first pregnancy, until the gravid uterus begins sensibly to distend the abdomen. In the above case the numbness felt in the limb, and the slight œdema visible chiefly on the foot, both of which were manifested at a very early period, resembled rather the effects of pressure such as might arise from an enlarged ovary resting behind the groin, than from a pregnant uterus.

8th. The os uteri higher than natural, and thrown to the left side of the brim, as if by a heavy body acting on the fundus uteri, and dragging the uterus towards the right side of the abdomen. The rounded form of the cervix uteri I could not then, nor can I now, explain, since it is probable that the shrivelled fœtus must have lain encysted, so to speak, and pressed together like a round ball in the upper part of the uterine cavity. There was, it is to be remembered, no sensible quantity of liquor amnii.

For the following ingenious explanation of these features of Mrs. ——'s case I am indebted to the great kindness of Dr. Montgomery, who, in a private communication, before referred to, thus expresses himself:—"Pregnancy began in the usual way, and went on for four or five months at least; then, from some unhealthy change in the uterus, or in the appendages of the fœtus, the latter was blighted, and of course ceased to grow; the liquor amnii was absorbed, the uterus gradually closing on and compressing the fœtus, so as to force it gradually and *with pain* into the cervix, which, consequently, you found rounded and bulging, rather than projecting, a short time before the expulsion of the fœtus; while the uterus itself was of course hard, and very sensitive, and fever and irritation spread, as a necessary consequence, through the constitution."

The reader who may take an interest in inquiries of this nature will do well, after considering each particular symptom by itself, to consider the whole *collectively* as the features of one case; for by this method only will he arrive at a just estimate of the difficulties which lay in the way of a correct diagnosis.

That the opinion delivered in this case, proved by the issue to have been erroneous, is open to comments, I am ready to admit. I will leave them, however, to be made by the intelligent

reader at his own leisure; who, while he learns caution by the error, may also, by the unvarnished narrative here presented, learn the great importance of the study of the signs of pregnancy, and the perplexing difficulties with which that study is, in some instances, beset.

DISLOCATION OF THE FEMUR.

To the Editor of the Medical Gazette.

Sir,

The perusal, within the last few days, of a "Case of Dislocation of the Femur on the Obturator Foramen," communicated by Mr. Skey, in your journal for August 4th, has recalled an instance of the same injury which occurred in this hospital in the year 1834.

As the reduction was effected, as it were, accidentally, with remarkable facility, I have thought that the recording of the circumstance might not be unattended with practical utility in the treatment of this accident. Should you be of the same opinion, you will perhaps allow the following short account to appear in your columns.

I am, sir,
Your obedient servant,

George Busk,
Surgeon to the Seaman's Hospital.

H. M. S. Dreadnought,
Sept. 10, 1838.

Richard Pippen, a seaman, aged 26, stout and very muscular, was admitted in the evening of December 14, 1834, having met with an accident two hours previously. He was standing on the deck of his vessel, in a stooping posture, with his legs wide apart, when he was struck suddenly on the right thigh by the main-boom, which had been carried away.

When laid on his back in bed the thigh was considerably flexed on the pelvis, and extremely abducted; the knee bent, and the foot everted. The prominence of the trochanter was absent, and a hard tumefaction could be felt in the upper and inner part of the thigh, beneath the abductor muscles; but the head of the femur could not be defined. The psoas and iliacus, where passing over the edge of the pelvis, could be felt much on the stretch; flexion and abduction of the limb were tolerably easy, but extension and adduction impossible. The knee was also extended with great difficulty. When directed to stand upright, the injured limb retained the same position, and the toes touched the ground; the foot being widely separated from, and somewhat in advance of, the other. He did not suffer much pain. There could be no doubt as to the nature of the injury, and the reduction was proceeded with immediately. The man was placed in a hot-bath, and, while in it, bled to approaching syncope, which required the abstraction of twenty ounces of blood. When taken from the bath, half a grain of tartarized antimony was administered, and he was placed on his back on a thin mattress spread upon the deck; two hooks were fixed on either side of him, opposite each other, and about six feet apart. Two bands were applied, in the mode directed in Sir A. Cooper's work on Dislocations—viz. a padded strap was passed round the right side of the pelvis, and the ends fixed to the hook on the left side. Another similar strap was placed round the inner side of the thigh, and as high as possible, passposteriorly within the strap which fixed the pelvis. This thigh-strap was connected by the pulleys to the hook on the right side. No means were used for producing extension of the limb. The pulleys were then gently drawn, but the cord very slightly tightened. I then took hold of the foot, with the intention of adducting the limb, at the same time that extension was made by the pulleys; but had hardly commenced doing so when my colleague, Mr. Tuckett, in stepping from the man's head towards his feet, struck slightly with his foot the extended cords of the pulley, and by the sudden yet trifling jerk thus produced, the head of the femur was raised from its position and replaced in the acetabulum with a distinct snap.

The motions of the joint were of course instantly restored. The limb remained for four or five days about half an inch longer than the other, but at the end of ten days the man returned to his duty.

TUMOR INVOLVING CERTAIN NERVES.

To the Editor of the Medical Gazette.

Sir,

If you are of opinion that the points connected with physiology and pathology in the following case, render it worthy of a place in your very valuable publication, I shall be much obliged to you to give it insertion.

I am, sir, your obedient servant,

Edw. Selleck Hare, M.R.C.S.
House-Surgeon to the Stafford County General Infirmary.

September 11, 1838.

Thomas Willetts, aged 40, married, of an unhealthy complexion, was admitted to the Infirmary, under the care of Dr. Knight, on the 8th of last June. He had been attacked a month before with pain, tingling and numbness along the course of the ulnar nerve of the left arm, which was most severe at the elbow, where there had also been some swelling and redness. There was, besides, pain through the left shoulder, extending across the chest to the opposite side, and upwards to the left eye and teeth of that side; also a sense of pulsation in different parts of the body, and sleepless nights. The tongue was clean, appetite good, no cough, or physical sign of pulmonary disease, and the secretions were all natural.

After a careful examination, the only cause that could be discovered to account for his symptoms was a small tumor, situated in the "inferior triangular space," on the left side of the neck, which it was possible might be producing some pressure on the origins of the nerves going to form the brachial plexus: the pulse at the wrist was equal to that of the other arm. The tumor, however, did not appear to be more than an enlarged gland, and the disease was supposed to be of a scrofulous nature.

In addition to the foregoing symptoms, the pupil of the left eye became contracted; and the levator palpebræ ceased to perform its office, the general irritability increased almost to mania, and the bowels became very torpid. In about three weeks after his admission, the pains and distressing sensations appeared to be increased, the pulse had become quicker, there were signs of debility, with numbness and coldness of the lower extremities; also by this time the tumor of the neck had become more extensive, and possessed a remarkable degree of hardness.

On the 20th of July he had almost entirely lost the power of sensation and motion in the lower extremities; and in a day or two afterwards there was a complete retention of urine. The catheter was used for about a week, when the urine again flowed, but without his being conscious of it; but he could partly empty the bladder when he chose, by the pressure of the diaphragm, scarcely, if at all, assisted by the abdominal muscles. On the 25th a slough began to make its appearance over the sacrum, but it occasioned him no pain. On the 12th of August the process of sloughing set in over each trochanter, he having been alternately laid on either side, in order to avoid the ulcer on the back. By this time the tumor of the neck had very much increased in size and prominence; the three ulcers became very extensive, and the suppuration copious; his strength gradually failed till the 26th of August, when trismus came on with paralysis of the muscles of deglutition and expectoration; and he died from suffocation at four o'clock on the following morning.

With respect to the treatment, I may observe that opiates procured him sleep, and relieved the pain without any unpleasant effect, and the eyes became more equally opened, and the pupils more symmetrical when he awoke in the morning. The repetition for a few days of exceedingly small doses of blue pill, which he took with extract of henbane, produced soreness of the gums and the mercurial breath. Leeches and blisters were repeatedly applied over the tumor, but without any effect. When the extract of belladonna was applied, the pupil of the left eye recovered its natural size for a time. Tonics and stimulants agreed, and no doubt prevented his sinking so soon as he otherwise would have done, from the inroads of the disease. For some time, also, his appetite did not fail him, and he took considerable quantities of nutritious food.

Post-mortem inspection.—The examination of the body was begun twenty-eight hours after death: it was now greatly emaciated. There was œdema

to a small extent in the legs and left arm.

The brain and spinal prolongation and their investing membranes were carefully examined, but no disease of any kind was detected. The optic nerves were of the same size and firmness: that portion of the medulla spinalis which swells into the cauda equina was particularly firm; there was little or no fluid in the great cavity of the arachnoid, not a large quantity in the lateral ventricles, and that in the spinal canal inconsiderable.

Dissection of the tumor.—After dissecting back the skin and platisma, from the left side of the neck, the superficial cervical fascia was found to be unusually dead, and the cellular tissue about it infiltrated with serous fluid. It being removed, the tumor presented its irregular surface, and was found to possess the hardness of schirrus. Some considerable veins passed into its substance, and it extended under the sterno-cleido-mastoideus and trapezius, raising on its surface the omo-hyoid, sterno-hyoid, and thyroid; which, however, were not implicated in the disease. After the removal of these the tumor was seen to extend upwards as far as the origin of the brachial plexus. The carotid artery, internal jugular vein, and pneumo-gastric nerve, passed into its substance; the first remaining pervious, the two last lost and transformed into the diseased structure, as were also the phrenic nerve, and further down the sympathetic, with its lowest cervical ganglion. The jugular vein above the tumor was atrophied, and the pneumo-gastric nerve was œdematous. The scirrhous mass extending under the clavicle, the latter was removed, and the following were its further relations:—The subclavian artery and vein passed into its substance, that portion of the anterior scalenus which separates the artery and vein, and nearly the whole of the muscle, being included in the disease, and undistinguishable. Both the artery and vein were pervious, but the latter was filled with a coagulum of a deep red colour. The tumor extended inwards as far as the trachea and arteria innominata, and downwards behind the left vena innominata and subclavian and carotid arteries, as far as the aorta, impinging upon it at the junction of its arch with the descending portion. The thoracic duct passed into and was lost in the disease, as also were the recurrent laryngeal nerve, and the veins accompanying the branches of the subclavian artery,—the branches of that artery themselves passing through the tumor without being converted into its nature. The tumor lay upon the brachial plexus, being firmly attached to the spine at the origin of the third and fourth nerves of the plexus, both which were inseparable from it.

Upon cutting into the anterior surface of the scirrhus, watery pus escaped, and the surrounding cellular tissue was œdematous. The carcinomatous mass extended itself in company with the last cervical and first dorsal nerves between the transverse processes, and into the intervertebral foramina as far as to the dura mater, which appeared beginning to be implicated; but the canal was perfect, and the appearance of the theca of the medulla not at all altered. There was no appearance of carcinoma in any other part of the body.

Observations.—The case seems to be interesting as an instance of glandular scirrhus in the male. The connexion of the disease with the distress and paralysis along the course of the ulnar and median nerves is obvious, and is evidence in confirmation of the assertion that these nerves can be traced through the plexus to the last cervical and first dorsal nerve, which I believe Boyer denies. The paralysis of the levator palpebræ, which receives a branch from the third pair; the contraction of the pupil; the pain of the teeth; the distressing sensation across the upper part of the chest; the paraplegia; the sense of pulsation in various parts of the body; and the maniacal disturbance of the mind, cannot, I apprehend, be referred to any *direct* communication between the structural disease and these several affections, but rather they must be regarded as an instance of that remote sympathy which is found to exist between distant parts of the same individual, and is most frequently displayed in persons of a nervous temperament. The œdema of the arm might possibly depend on the existence, during life, of the coagulum found in the subclavian veins; but the swelling of the elbow, which occurred at a much earlier date, could scarcely be supposed to depend on

any impediment to the circulation at that period, and is interesting as shewing how pain and irritation of the nerves of a part, existing only sympathetically with a distant cause, may lead to structural alteration in such part, and is parallel to what occurs in hysterical females, of which I have seen many examples. The stoppage of the thoracic duct without much emaciation, perhaps is parallel to maintenance of "*enbonpoint*" by hysterical patients, with the most complete anorexia for very long periods. The length of time during which the patient was bed-ridden, and the degree of emaciation and debility, taken together, were not sufficient to account, of themselves, for the sloughs over the sacrum and hip, which probably owed their existence to the paralysis of the nerves of animal life; and the fact tends to demonstrate the influence of this part of the economy over the nutritive functions.

CASE OF VARICOSE VEINS,

TREATED BY MEANS OF THE TWISTED SUTURE.

(Communicated by Sir Jas. Macgrigor, Bart.)

Andrew Ross, aged 32, 84th regiment, admitted into hospital on 12th July, 1838, with a large ulcer over the front of the right leg. The skin is unhealthy over the whole of the lower part, from old cicatrices.

This man has served in the West Indies for ten years, and states that for the last five he has been subject to constant ulceration of the leg, and enlargement of the veins, which are now of a considerable size, and in a varicose state, from the groin to the ankle. The diseased branches on the leg are numerous, and very tortuous. Under these circumstances there was no hope of permanently curing the ulceration without first curing the varicose veins. With this view, seven common surgical needles were inserted under the different diseased branches, and the twisted suture applied firmly to compress the sides of the veins. One of the needles was put under the saphena, about the middle of the thigh. Slight inflammation was produced from the needles, ulceration gradually went on, and the needles completely ulcerated through, and finally came away on the eleventh, thirteenth, and fifteenth days after insertion.

The ulcer on the leg got quite well, and the man was discharged to duty on the 17th August, feeling very comfortable about the leg, and without any enlargement of the saphena vein in the upper part of the thigh and groin left.

A. Melvin,
Surgeon to the Forces.

Portsmouth,
31st August, 1838.

CASTS OF ANATOMICAL SPECIMENS.

To the Editor of the Medical Gazette.

Sir,

I beg to forward you, for publication, an account of the process for casting from morbid anatomical specimens, which has lately received the silver medal of the Society of Arts.

The necessary dexterity is so easily acquired, and the expense is so trifling, that many may be induced to make trial of this method of preserving their preparations;—and as these are days in which any, even the smallest discovery in art or science, seems to furnish subject for attack and violent discussion, I would here wish to disavow any originality as to the nature of the composition of which the moulds are made, the undermentioned ingredients in various proportions having been in use amongst modellers and workers in plaster for some years.

The preparation (whether in the recent state, or having been preserved in spirit or in solution of any sort) is wiped nearly dry, and then arranged, so as best to display its peculiarities, upon a wooden slab of the required size and shape, this having been previously saturated with water, and wiped nearly dry.

Having been slightly fastened to this slab by means of pins, and all those parts in the subsequent relieving of which any difficulty is to be apprehended having been supported or filled up with moistened linen rag, the whole is immersed slowly and gradually (at an angle of 40 to 45 degrees) in the melted composition.* Being withdrawn

* This consists of Burgundy pitch and pure bees' wax, each one pound; yellow resin, two

for a few seconds, it is again and again dipped so as to produce a mould of suitable thickness. This being effected, it is plunged into cold water, when the mould becoming hard, the pins may be easily withdrawn, and the slab and preparation readily taken out of the mould.

The mould is then to be carefully filled with the finest plaster of Paris in the usual way, and in half an hour after this has set, it may be placed for a few minutes in water a little below blood-heat; by this means the mould becomes soft and pliable, and may be easily torn off, bit by bit, in such a manner as to leave uninjured the most delicate part.

Immediately after the removal of the mould the cast should receive two or three coats of the finest olive or almond oil; when this has been absorbed, we may begin at once to colour from nature, using at the same time a small quantity of fresh ox-gall.

The time occupied by the whole process is so short, that the colours of the original generally remain fresh for the imitation of the artist upon the cast.

Those of your readers who may wish to see some of the casts will find one or two in the museum of the College of Surgeons, also at King's College, and at St. Bartholomew's and Middlesex Hospitals, London; and at the Medical Library in this town.

I remain, sir, your's, &c. &c.

WILDMAN WHITEHOUSE.

Liverpool, September 13, 1838.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

The Spas of Germany. By A. B. GRANVILLE, M.D. F.R.S. &c. Second Edition. London, 1838. 8vo. pp. 516, and lviii. With 39 Illustrations and Maps.

BATHING, in all its varieties, and the drinking mineral waters, are certainly two of the most pleasant prescriptions in medicine and hygiene. Purgative and tonic draughts are made up much better in the bowels of the earth than in Bond Street or Holborn; and bathing, when not limited, as it too often is in this country, to cold bathing, is at once a preventive of disease, and a palliative of half the ills that flesh is heir to. The cold bath, admirable as far as it goes, suits only a small part of the population for a few months in the year. The warm-bath, great as is its efficacy when administered even in the ordinary manner, becomes doubly powerful when the skin is stimulated by the saline or gaseous ingredients of certain springs, and when the patient, "long in populous city pent," at the same time enjoys the air of Barèges, Harrowgate, or Baden. This adjuvant of a pure atmosphere doubles the advantage of drinking likewise; and though we would by no means depreciate the benefit to be derived from taking Cheltenham or Selters water in London, we would say to every patient, go to the fountain if you can:—

"Nam quamvis sapor est allatâ dulcis in undâ,
Dulcius ex ipso fonte bibuntur aquæ."

Of the boundless advantages to be derived from the waters of many celebrated springs, we have not the smallest doubt; and we therefore rejoice in the publication of Dr. Granville's discriminating work as an excellent flapper to many jog-trot practitioners, who, amid the routine of blue pill and black draughts in smoky cities, forget that there are such things in the world as pure air and saline springs. As for settling the precedency of all the healing waters in Europe, it is fortunately not our office. Baden has cured many cases of gout, but so has Bath; and Harrowgate, if its records were unrolled, might prove a rival to Aix-la-Chapelle itself. For our own part, if we may tell our private opinion so publicly, we should prefer the watering-places on the other side of the channel; and if, some day, our stomach should sink under our literary labours, and any friendly counsellor should recommend Tunbridge, we should be tempted to ask, "Would not Pyrmont do as well?" To us the prolonged travelling, the strange sights and sounds, the sociability of a foreign Spa, and the unceasing vivacity of its *table d'hôte*, would be so many additional tonics; while, to a quiet septuagenarian, who had never before left his native country, they

oz.; mutton-suet melted and strained, six oz. This should be kept in a fluid state, and at a regular temperature, by means of a lamp placed under the containing vessel, the most convenient form for which I have found to be a longitudinal section of a cylinder, the flat side being of course the lower side, or inclined plane, on which the bottom of the slab slides during its immersion.

might be more depressing than a dose of colchicum.

The work before us commences with popular considerations on the use and power of mineral waters, extending to about thirty pages; and we then come to the body of the work, where we find the Spas divided into four geographical groups. The first contains the Baden and Würtemberg Spas, consisting of Baden-Baden, Rippoldsau, Wildbad, Liebenzell, Deinach, Cannstadt, and Boll.

Baden, which is the first on the list, is the first also in desert, and perhaps the only one of the seven which enjoys a European reputation. It takes its double name from being in the Grand Duchy of Baden, and is thus distinguished from Baden near Vienna, and Baden in Switzerland. Although its healing springs have been celebrated in Germany for ages, and seem indeed to have been known since the time of the Romans, their fame had hardly penetrated to England in the middle of the last century; for in one of Chesterfield's Letters to his Son we find the following curious passage:—

"You tell me that you are going to the baths of *Baden;* but that puzzles me a little, so I recommend this letter to the care of Mr. Larpent, to forward to you; for Baden I take to be the general German word for baths, and the particular ones are distinguished by some epithet, as Weissbaden [Wiesbaden], Carlsbaden [Carlsbad]," &c.

At present, however, the case is widely different; not to know Baden would argue oneself unknown; and, as our author observes, it is "justly considered the queen of the Spas of Germany, Carlsbad claiming to be the monarch of them all." (p. 4.)

There are two obvious methods of reaching Baden from London; the one to go by Paris and Strasburg; the other to travel by way of Ostend, or Antwerp, and the Rhine. The latter road looks rather longer of the two on the map; but from the facilities afforded by the Belgian railroads, would probably be full as short in point of time. In either method it is easy to reach Baden in four or five days.

The principal spring at Baden is called the *Ursprung*, of which the temperature is $153\frac{1}{2}^{\circ}$; a pint contains $23\frac{3}{10}$ grains of solid matter, of which sixteen are common salt. "Next in importance are the sulphate, muriate, and carbonate of lime, which altogether amount to six grains and a half. The remainder consists of a small portion of magnesia, and of traces of iron, with about half a cubic inch of carbonic acid gas in addition." (p. 18.)

The water is conveyed by pipes into several of the hotels, such as the Badischer Hof, the Zähringer Hof, &c., so that the invalid may bathe without going out of the house, and that at the most moderate rate. At the Zähringer Hof, for example, the price of an ordinary bath is twenty-four kreutzers, or eightpence.

The waters of Baden are indicated, according to Hufeland, in all kinds of paralysis, contractions, gout and rheumatism, cutaneous eruptions, ulcers, and cold swellings.—(*Practische Uebersicht*, &c. p. 249.)

Dr. Granville also mentions some cases of amenorrhœa which were cured by these waters when every other remedy had failed.

On the other hand, there are many cases in which they are contra-indicated:—

"The operation of bathing in water endowed with much power, from heat and other circumstances, is not to be viewed lightly. Much mischief has arisen—nay, fatal results have followed—from its indiscriminate adoption. A rich merchant, who, but a few hours before, had been noticed on the public promenade after dinner, on the day after our arrival was found dead in a bath at eight o'clock the same evening. A lady was pointed out to me, who had lost the use of her limbs, after taking three hot baths, without having first considered the nature of her case, or followed the instructions generally given for using them. There are certain conditions of the body which render these hot baths inadmissible. In such cases, to attempt them, or to persevere in their use, is to rush into danger. Such as have a full, heavy, and distended liver; others who possess very weak powers of digestion, and at the same time suffer from accumulated phlegm in the stomach, and crude or foul secretions in the intestines; a third class, whose strength has been wholly annihilated by a long and dangerous illness; lastly, people naturally inclined to collections of blood in the

vessels of the head, and subject to giddiness, palpitations of the heart, or who have had a threatening of apoplexy: all these must abstain from the hot bath at Baden, if they care for their safety." —(P. 19-20.)

We, of course, agree with our author, that the hot bath would be unadvisable for the patients described in the above extract; but must they all avoid the warm bath also? He afterwards says, "Let the temperature never exceed 100°; and oftener let it be between 94° and 98°." Would not many of them benefit by a bath at 94° or 96°? We confess that we ask doubtingly, on account of the difference between ordinary water and the stimulating streams of Baden. By the by, when we took a bath there last year (at the Badischer Hof, if we recollect aright), its temperature was scarcely high enough, and the pipe which should have let in hot water conveyed lukewarm instead. The waters are also drunk, and the carbonate, muriate, and sulphate of soda, are often added to them, so as to produce a faint imitation of the Carlsbad water. Living, and luxurious living too, is extremely cheap at Baden. "A *déjeûner Anglais* is thirteen pence; a *déjeûner simple,* with coffee and bread and butter only, twenty-four kreutzers, or eight pence. The early dinner at the table-d'hôte is one florin, and fourpence more for half a bottle of Durbacher, *vin du pays.* At four o'clock the table d'hote dinner is three francs (2s. 6d.) with wine, and without it one florin and twelve kreutzers, or two shillings. (P. 39)

An English physician, Dr. Hutton, of whose merits our author speaks in high terms, has settled in Baden for the season, so that the countrymen unskilled in the tongues may have their ailments attended to without the risk of mutual misunderstanding.

Of Kippoldsau our author says little, and we shall say less. It is a cold saline spring in the Grand Duchy of Baden, resembling Seltzer (Selters) water in taste.

Wildbad is situated in the kingdom of Würtemburg, at a short distance from Baden-Baden, from which, however, no direct road to it is given on our author's map. The temperature of the waters varies from 84° to 100°, the Herrenbad being of the latter degree. The Fürstenbad, or Prince's Bath, looks wonderfully tempting in the woodcut at p. 59. It has been built over the spring, and has a fine sandy bottom, and a temperature of 98¼°, just near that undefinable limit which separates the warm from the hot bath. Our author describes the delightful tranquillity which it produces, with great elegance of language, p. 58-9. He concludes by saying, "From such a position I willingly would never have stirred. To prolong its delicious effects, what would I not have given? But the Badmeister appeared at the top of the steps of the further door, and warned me to eschew the danger of my situation: for there is danger even in such pleasures as these if greatly prolonged."

[To be continued.]

MEDICAL GAZETTE.

Saturday, September 29, 1838.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

A WORD OF ADVICE TO PUPILS.

We never remember the first of October to have approached with less noise or bustle than this year: there are no new schools, and no great changes in the old ones; and the market (to use a language which is daily becoming more appropriate in the schools) looks unusually dull and heavy. A good deal of preparation, however, has been going on during the past year; and it has been not a little amusing to us, to sit by and silently watch the schemes that have been employed to accumulate in one season a reputation for the next. It seems that as competition increases, and the profit of teaching becomes less, the exertions to obtain the little that can be made by it become daily greater; and hence it is, that throughout the year some of the teachers have been conti-

nually endeavouring to set up some new attraction to tempt those who may arrive at the ensuing season.

Now it argues but little for the judgment of those who are about to enter the medical market for the first time as consumers, that the sellers should deem it best to vaunt the worst qualities of the goods they offer. Yet so much is this the case, and so boldly are those things which are injurious puffed up as beneficial, that we gave a general caution to students this time last year, to beware of all schools which loudly professed to offer any peculiar advantages. But we fear that our advice was scarcely definite enough, and that it is necessary to particularize more exactly the *advantages* which are especially to be avoided.

Let us pass in review the chief attractions which we have seen exhibited, and which are the most frequently resorted to, to gain a reputation for the schools. Perhaps the most common is what is called "bold practice." It is quite extraordinary how fascinating this is to young men. We have often seen the student of one hospital, whose physicians were prudent and judicious men, looking quite small, while another from the class of a more *bold* practitioner was romancing on the prowess of his preceptor, who was making poisons his playthings. Gentle reader! if you be a pupil now doubting under whom you should study the practice of medicine, receive this word of advice: if ever you see a physician tossing about huge doses of arsenic and prussic acid, of morphia and strychnia, like so much magnesia—if ever you hear one (as we have heard) ordering five or six of our most powerful poisons in a single draught—if ever you see a patient living (?) on a diet of hydriodate of potash—beware of such teacher; and if you hear him with a sneer of contempt laugh at the "old women" who deal carefully with these things, leave the district at once; for if you remain there, you will learn more of the arts of manslaughter than of the mysteries of medicine.

Observe the same rule with regard to "bold" surgeons, as all the imprudent ones are called. If an hospital be renowned for the number and severity of the operations performed at it, it should be avoided, however attractive it may appear by this blood-red light. There is no more dangerous qualification, even in one whose anatomical knowledge and dexterity are of a high order, than this *boldness;* and such a surgeon should never be a teacher, for although he may do no great mischief, his pupils will accomplish plenty; because boldness is so much easier to learn than anatomy, and the daring to attempt an operation is so liable to be mistaken for the ability to perform it. Nothing can be more in point than the maxim of that great surgeon, the late Mr. Cline, with whose lectures the present volume opens. "Those who are not in the habit of operating, should endeavour to operate slowly, not considering the time it will take, but in what way it may best be done." If, therefore, you hear much boasting about operating against time, and removing portions of the sphenoid bone; if you see men cutting into hernial sacs and urinary bladders at first incisions, amputating legs and arms without either mercy or a tourniquet; twisting femoral and trachial arteries, and slicing human flesh like so much cat's meat, eschew them all most scrupulously. They are but a kind of carpenters, who are dignified somewhat by the material that they work in. Besides, in all these things you should carefully keep in view to learn that which will be most constantly useful in your own practice in after

life, when you will, in all probability, very rarely be called upon to perform any such operations, but will be daily required to exercise that judgment which professed operators so rarely possess, and to cure those simple diseases which they and their followers despise and are ignorant of.

For the same reason, be very cautious of the places which boast of, and are renowned for the number and imagined importance of the accidents which are carried to them. Remember, that accidents are important in direct proportion to their frequency, and inversely as their severity.

Next to these, the attractions of tragedy, the most enticing baits held out are those of novelty; and amongst these what can compare to Animal Magnetism, *redivivus*—though now *re-mortuus?* Its suffocation has certainly been most lamentably untimely: what a figure might it not have made in the *carte* of its foster parents! What a bright beacon might it not have shone around the brows of its sponsors! How had it promised to repay them, had it been permitted to survive till another October! But they are left with no other consolation than the excellence of their intentions may afford them; unless, indeed, they will be glad in having afforded an admirable caution to those who come after them to be wary of revived follies, and will allow that which was intended for a harbour-light to remain burning to indicate where there are shallows. Now let the student remember the fate of animal magnetism, and that of at least nine-tenths of the novelties that are brought out and vaunted to attract attention: creasote, at first the specific for phthisis, epilepsy, and porrigo—now little more than an occasional cure for the tooth-ache; strychnia, once the panacea of paralysis and every nervous disorder—now known for scarcely more than the mischief that it does. Let him look, too, at the wreck of homœopathy, that refuge for the destitute of quacks, and at the shadows that now alone remain of all the systems born and defunct in the last ten years. Let him look with suspicious eyes on all teachers who are perpetually harping upon novelties.

We have had of late, too, some strange reports of royal roads discovered to the attainment of some of those high regions of medical science which were hitherto thought most difficult of access. But, if you hear where it is that you can learn the use of the stethoscope in an hour, or where you can be taught lithotrity or lithotomy in a day, or any easy mode of accomplishing the greatest difficulties, just ask whether the same teachers do not offer you some other unusual *advantages;* and if they do, leave them at once. There is no royal road to medical skill, though there may be to certain kinds of medical practice; and steam is, as yet, in the infancy of its application to the study and practice of the healthy art.

Avoid, also, those who profess themselves to be great men in some one thing; rely on it they are but little men in all others. If you see one riding a hobby very hard, keep out of his way; whether that hobby be a stethoscope or a lancet—a new knife or an old function: one horse will never carry either him or you to professional competency.

Numerous attractions of less note and less mischief have been held out, and vaunted with scarcely less noise; such as the opportunity of dissecting by gas-light, of reading Moliere's Malade Imaginaire, and Andral's Anatomie Pathologique, with a native, under the name of a teacher of Medical Classics—of being taught with strict reference to the questions asked at the Hall and College, and so on. But avoid them all—they are fraudulent blinds to conceal real disadvantages; leave them, and ask,

where the opportunities are offered for a personal and practical study of your profession—where you can see disease of all kinds and in all its forms—where you can learn the value of remedies which you may administer without trembling—where you may be guided in your studies by men of judgment, experience, and carefulness, who can endure to pass a year without exhibiting a new folly; who would rather *not* operate when the question of maiming a patient, or leaving him with whole limbs, is nearly equally balanced; or who, where a fatal result is inevitable, would rather have a man die of his disease than be poisoned by the remedy. Seek out these schools, (and you must seek for them because *their* names are not cried aloud in the streets) where you have the best opportunities of dissecting for yourselves—of studying morbid anatomy in museums and in the dead-house—of reading and referring to libraries—of learning the collateral sciences, as chemistry, botany, &c. strictly in their relations to medical and surgical practice; in short, of acquiring a sound and practical knowledge of your profession; and though the road to it by them seem rather long — though it is neither lighted up by the *ignes fatui* of novelty, nor its scene diversified by tragedy and bloodshed—go to these schools and hospitals, and work on steadily and quietly till you are fit to pass the ordeal, not only of your examinations, but of your own conscience, when you come to have the lives of your fellow-creatures, and perhaps your friends, entrusted to your care.

OUR NEW VOLUME.

We think it right, in commencing a new volume, to intimate that it is our intention to pursue the same general plan on which this journal has been hitherto conducted; and we do this with the greater confidence, as we have the satisfaction of being able to state that the patronage bestowed upon the Medical Gazette has very materially increased during the past year, both with respect to its circulation and the number and value of the communications which it has been the medium of giving to the public. We have every reason to hope that this source of supply will continue open to us. At the same time, we have deemed it to be our duty to secure a stock of original materials in the form of Lectures. This department will comprise a short elementary course on some of the most important points in surgery, by the late Mr. Cline, which we trust will be acceptable to our readers, not less on their own account than from their recording the opinions of one of the most eminent surgeons England ever produced, but who has published less than, perhaps, any other individual who had obtained equal celebrity. In the department of surgery we have also procured clinical lectures, delivered in the class rooms of Sir Benjamin Brodie and Mr. Lawrence. In medicine we have the very valuable co-operation of Dr. Graves, a set of whose clinical lectures we shall commence next week—while, on Diseases of the Eye, we are indebted to one of the most distinguished writers of the day on Ophthalmology—Dr. Mackenzie, of Glasgow. After the conclusion of this last we purpose to give a set of lectures on the same subject by M. Velpeau, published under his express authorization, and which will be found to contain views considerably different from those of the English and German surgeons. It is also probable that we may be enabled to publish some valuable lectures on the Chemical History of Calculous Disorders, by Dr. Venables; but we are not yet quite certain whether we shall be able to give them in the present volume.

GLASGOW EYE INFIRMARY.

Clinical Lectures by Dr. Mackenzie.

Sept. 15, 1838.

Lenticular Cataract—Operation of Extraction.

Alexander Clarke (No. 8748), an iron-dresser, aged 70 years, admitted 24th August, 1838. For three years back, the vision of left eye has been failing. The lens is now opaque, the opacity of an ashy colour, somewhat striated towards the circumference. The right lens presents the first stage of glaucoma*, with incipient cataract; and the vision of this eye is declining. No headache. Pupils at present fixed, from the use of an infusion of belladonna. Pulse 84. An ounce of castor oil to-morrow morning.

26th.—After the punctuation and counter-punctuation with the extraction-knife, through left cornea, were effected, the edge of the knife being directed upwards, with the intention of dividing the upper segment, a quantity of vitreous humour was discharged. The knife was immediately withdrawn, and the eye now appeared flaccid. The needle, bent at a right angle, was introduced through the cornea, and the capsule opened. With two strokes of Daviel's scissors the incision was now completed. During these steps of the operation it was with great difficulty that the patient could be brought to direct his eye downwards. The lens was now removed by the ordinary degree of pressure, and without any farther loss of vitreous humour. The aqueous chambers became immediately filled with red blood, probably in consequence of the iris having been wounded with the scissors. The eyelids, on each side, were brought together with a strip of court-plaster.

27th.—No pain. Pulse slow and intermittent.

29th.—Two colocynth pills.

30th.—Blood appears to be completely absorbed. Pupil clear. Sees the fingers and other objects before him. Has not been permitted to open the eye sufficiently for the wound of the cornea to be seen. Strips of plaster again applied.

Sept. 2d.—Eye opened for the second time. No pain, nor sign of inflammation. Cornea clear, and vision good. Strips of plaster again applied.

4th.—Eye opened for the third time, but not exposed to a full light. Expresses himself much satisfied with the distinct vision he has of the objects presented to him.

8th.—Tells the hour by the watch, without any cataract-glass. Plasters still applied.

9th.—A colocynth pill.

12th.—Wound of cornea appears perfectly healed. Pupil angular towards nasal side of eye. Bowels rather bound. Two colocynth pills. Extract of belladonna to left eyebrow.

13th.—Pupil pretty widely dilated, and very clear. A small tag of adhesion between nasal side of iris and nasal extremity of cicatrice of cornea. Belladonna washed off.

15th.—With a 2½-inch convex glass reads a large type.

I dare to say, that some of you, who saw the extraction of the cataract performed on Clarke, thought very unfavourably of its probable success. It is difficult to conceive an eye to look worse than his did, filled completely, as the aqueous chambers were, with red blood, and so strong a likelihood existing that some important part had been wounded in the operation, besides those which are unavoidably implicated. Our fears have been happily disappointed, and Clarke appears to be restored to as good vision as is generally obtained by any operation for cataract.

With regard to an operation so important as extraction, no particular, however minute, ought to escape your attention. When you witness an extraction, you should note every circumstance, and weigh considerately its influence, whether favourable or unfavourable, on the result of the operation. The circumstances of an unfavourable nature you should particularly study, in order that you may avoid them in your own operations.

1. You would observe that before proceeding to operate on Clarke's left eye, we tied up his right. We think this practice tends to keep steadier the eye which is to be operated on. If the patient sees considerably with the other eye, which is often the case, the tying of it up prevents him from starting at the approach of the knife.

2. We laid Clarke in the horizontal position, on his back, as this secures the steadiness of the head. It also tends to prevent syncope, an accident which, with the patient sitting up, is exceedingly annoying in the midst of such an operation as extraction.

3. We tried the point of the knife on a bit of thin leather, held on the stretch, that we might ascertain its fitness to penetrate so dense a structure as the cornea. If the knife passes through the leather without causing any sound, the point is perfect; if a crack is produced at the mo-

* See Medical Gazette, vol. xxii. p. 107.

ment of its passing through, the point is bad, and another knife is to be taken.

4. To the assistant was committed the supporting of the upper eyelid, while with the forefinger of my left hand I depressed the lower eyelid, and placed the middle finger on the caruncula lacrymalis, so as to prevent the eyeball from turning inwards. I have often said that this last is one of the most important directions out of all those which respect extraction; for, if after commencing the operation, after performing what is called the punctuation of the cornea, you allow the eye to roll towards the nose, so that the nasal edge of the cornea is hidden from your view, you will find it difficult, or impossible, to recal it to the central position. If you now go on with the counter-punctuation you will be obliged to perform it in the dark, and will probably perform it wrong, either bringing out the knife too far from the nasal edge of the cornea, and thus making too small an incision, or plunging the instrument through the iris and through the sclerotica.

Some operators use no assistant. It is only for those who are experienced and dexterous to attempt this, and even with them the practice does not always answer. If the fingers of the hand which does not hold the knife be occupied in keeping the eyelids asunder, it may be impossible for the unaided operator to prevent the turning in of the eye.

Barth, professor of anatomy at Vienna, and the founder of the Austrian school of ophthalmology, was one of those who operated without an assistant. He kept the patient standing, with the head against the wall. Santerelli has related the particulars of a double extraction by Barth, which I shall translate to you.

"The celebrated Barth," says he, "oculist at Vienna, boasted that he operated without an assistant and without a speculum. Happening to be a second time in that capital, in 1795, on my return from England, and being particularly introduced to him, he permitted me to be present at an extraction of the cataract, which he performed on the 10th of April, at half past 11, A. M.

"The patient was a lady, of about 60 years of age, cataractous in both eyes, cachectic more from age than constitution, whose case I put down in my journal. The cataracts were of a blue colour, tending to whitish. The operator made the patient stand up by the side of a window which looked to the south, in such a way that her left eye was turned towards the window. He took off his coat that his arm might be more at liberty. He then applied the point of the forefinger of his left hand against the upper edge of the left orbit, and thus keeping the upper eyelid raised, with the thumb of the same hand he depressed the lower, so that the eyelids, with their tarsi, formed something like the mouth of a little purse, within which moved the eyeball.

"The lady was desired to look the professor in the face and somewhat outwards. At that moment the operator took his little knife, which he had between his lips, with the thumb and forefinger of his right hand, and touching the cornea with the flat side of the knife, to accustom the patient, as he said, to the new impression, he placed the point in the middle of the external edge of the cornea, where he meant to begin the incision. Although the mobility of the eye prevented that, the operator, confiding in his dexterity, struck the cornea, and with the point of the knife reached as far as the pupil. At that instant the lady turned the eye so much inwards, as to hide a good part of the cornea, on which the operator withdrew the instrument, allowing a considerable part of the aqueous humour to escape.

"Not choosing to prosecute the operation further for the present, he placed the patient at the opposite side of the window, and proceeded to operate on the right eye, leaving the left free, as he had done the right, when he operated on the left. Having fixed the eyelids with the fingers of his right hand, and this eye not being quite so restless, he penetrated its cornea at more than a line from the sclerotica, and pushing the knife on, reached with it the opposite side of the cornea, which he ran through, and allowing the eyelids to fall together, terminated the inferior incision of the cornea almost with the eye shut, by which means he lessened the dragging of the part to be divided.

"That done, he rubbed the eye gently with the point of his thumb, in order that the parts might recover themselves; and quitting the right eye, he quietly returned to the left.

"Having with some difficulty placed the lady in her former position, he tried repeatedly to thread with the point of his knife the opening formerly made, and at last succeeded, but not without some trouble. He advanced the point, with difficulty, through the anterior chamber, on account of its narrowness, arising from the loss of part of the aqueous humour. The lady turned the eye under the inner angle as at first, but the professor, recalling imperiously the eye into the middle*, was able to

* "Recalling imperiously,"—a strange phrase! but so it is. "Richiamando con imperio l'occhio nel mezzo."

traverse the cornea on the other side, at a line's distance from the sclerotica, and lower down than the puncture made at the outer edge; and having terminated thus the inferior incision of the cornea, he allowed the eye to rest. He then took the cystotome of La Faye, and opening the eyelids as before, introduced it through the anterior chamber, as far as the pupil, to divide the capsule; repeating this, indeed, twice.

"On opening the capsule there issued a little whitish humour, which caused the professor to say, that the cataract was milky. He then took a little golden spoon, and compressing with it the lower part of the eye, solicited the exit of the lens, which was accomplished with great difficulty, on account of the wound of the cornea being rather small. From the little consistence of the lens, and not from its being milky, there had at first issued the humour of Morgagni somewhat changed, and this ought to have made the exit of the lens easy, through a moderate opening of he cornea.

"Notwithstanding repeated attempts, and gentle skilful compressions of the eye, the pupil remained somewhat turbid, perhaps on account of opacity in the capsule, and the operator contented himself by leaving the issue to nature. Without changing the position of the patient, he introduced the cystotome into the right eye, and with more facility. The capsule being opened, he took the spoon with which to compress the lower part of the eye.

"From this compression there likewise issued a little whitish fluid, followed by the lens, of a whitish colour and somewhat hard. Its exit was attended with some difficulty, this opening not being exactly proportioned. The extractions being thus terminated, he rubbed the eye gently, in order that the parts might resume their places; and on trying the vision, the left eye saw none, the right could distinguish objects sufficiently well.

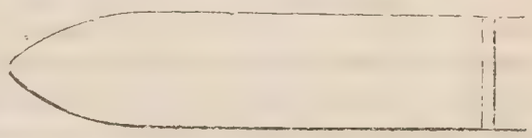
"The operator being of opinion that the operations had not gone off in the masterly style he would have liked, said to those present, with much frankness, that *one did not always gather roses;* to which some one replied, that *that should not signify to one who had already gathered so many**."

I have quoted this lively narrative to shew you that even in the hands of the most expert, the plan of operating without an assistant is apt to give rise to that turning of the eyeball inwards, which is productive of much annoyance to the operator, and may even lead to the most disastrous consequences.

5. The eyelids being fixed and the eyeball prevented from turning itself inwards, I proceeded to open, with Beer's knife, the upper half of the cornea. This is exactly the reverse of the plan which I was taught by Beer to consider the best; and I may take this opportunity of saying a few words on the history of the upper section, and on its advantages.

When I was a pupil at Vienna, some twenty years ago, it was usual to attribute the invention of the upper section to Santerelli, and to swear, *in verba magistri*, that it was a bad operation. You will find it set down in books, that Wenzel, Richter, and Benjamin Bell, practised, or at least recommended, the upper section. The first Wenzel's common operation was a semilateral section, parallel to the temporal and lower edge of the cornea; but in certain cases, as when the lower part of the cornea was leucomatous, he made his section parallel to the nasal and superior edge. In this way he operated, as his son relates*, on the Duke of Bedford and on the celebrated Leonard Euler. All that Richter says on the subject†, is, that the upper section is practicable. Bell had tried the upper section only on some of the lower animals; but he states distinctly‡ several reasons for preferring it to the common method of making the incision parallel to the lower edge of the cornea.

Santerelli was the first, as far as I know, who actually made the section, not semilaterally as Wenzel had done, but at the upper edge of the cornea. This he did at Berlin, in 1795, with a double-edged knife, the figure of which you see here. He introduced the point of the instrument directly into the anterior chamber, from the middle of the upper edge of the cornea; a method of operating, in which, I know from experience, it would be impossible to make a section of more than from a quarter to a third of the circumference. This method of Santerelli's is a bad one, and is entirely abandoned.



The best operators, both of this country and of continental Europe, are at present exactly following the plan recommended by Benjamin Bell, who says, "The upper part of the cornea is cut with the same ease as the under part of it; the same instruments being employed, and the surgeon, patient, and assistants, being placed in the same manner: only in this case the knife

* Santerelli, Delle Cateratte, p. 61, Forli 1811.

* Traité de la Cataracte, pp. 132, 135, Paris 1786.
† Treatise on the Extraction of the Cataract, p. 59, London 1791.
‡ System of Surgery, vol. iv. p. 238. Edin. 1801.

must be introduced with the cutting edge of it towards the upper part of the eye."

Now, there is no denying this, that though the mere section may be executed "with the same ease," the whole operation of extraction, at the upper edge of the cornea, is more difficult than if the incision were made downwards. This is particularly the case with regard to the second period of the operation, or the opening of the capsule. You saw this in Clarke; and I have repeatedly found it difficult, and once I found it impossible, to get the eye turned down sufficiently to permit me to open the capsule. In the case in which I found it impossible, I ventured to proceed to the third period, the exit of the lens, without having performed the second; and by a moderate and sustained pressure I was lucky enough to get away the cataract, without any loss of vitreous humour.

To counterbalance this difficulty of performing the second period of the operation, which constitutes the principal objection to the upper section, we have two great advantages:—1st. The flap of the cornea, completely covered and protected by the upper eyelid, unites more readily and with greater certainty, so that in general there is less inflammation, and very rarely any suppuration or any prolapsus iridis. 2d. Should unfortunately inflammation come on, and a broad white cicatrice be the result, with perhaps adherent and distorted iris, or even closed pupil, the lower half of the cornea remains transparent, and by and by we are able to form an artificial pupil in the lower half of the iris, through which the patient will generally see as well as if the eye had a natural pupil. The same degree of inflammation, opacity, and adhesion, following the lower section, would produce an impediment to vision, in its usual direction of downwards and forwards, which an artificial pupil in the upper half of the iris would obviate only in a very imperfect degree.

6. As soon as I had made the punctuation and counter-punctuation of the cornea, not merely the aqueous but part of the vitreous humour was seen to escape from Clarke's eye. I immediately withdrew the knife, leaving a considerable bridle of the cornea uncut—a practice which I remember Mr. Abernethy stating, in his lectures, to have been followed in all cases by Mr. Phipps, with a view of avoiding the danger of the vitreous humour suddenly escaping sometimes along with the lens, at the instant of finishing the section in the common way. Sir Wathen completed the section, I presume after performing the second period of the operation, with a small blunt-pointed knife. The loss of vitreous humour was not great in Clarke's case, and the effect on vision has been null; confirming, on this point, the opinions of Beer and Roux, both of whom have regarded the loss of a small quantity of vitreous humour as of no consequence. Nay, Mr. Lawrence thinks, that "in many instances it seems rather to contribute to success: it lessens," he says, "the bulk of the globe, and takes off the tension which occasionally succeeds to the operation*."

7. The capsule being freely opened in the ordinary way, I proceeded to divide the bridle of the cornea, but here I experienced very great difficulty. The patient could not turn his eye sufficiently down to permit me to see the blade of Daviel's scissors pass into the anterior chamber, so that I was obliged to perform this under cover of the upper eyelid, and no doubt gave the iris a small snip along with the cornea. To have divided the bridle with Mr. Phipps' knife would have been absolutely impossible. The lens was easily extracted without the use or the hook, which I generally employ when the vitrous humour threatens to escape. Its exit was immediately followed by a discharge of blood, from the iris into the aqueous chambers. The case which I have read from the case-book, details the reabsorption of the blood, and the favourable issue of the operation. The tag of adhesion between the iris and the nasal extremity of the cicatrice does not in any material degree interfere with vision.

8. Our patient was kept with both his eyes closed, by strips of court-plaster, for nearly a fortnight—a practice which I consider of great utility. The plasters protect the eye from the intrusion of foreign matters, prevent the patient from using the eye, and cause the eyelids gently to compress and close the wound of the cornea.

WESTMINSTER HOSPITAL.

Traumatic Delirium relieved by the exhibition of Opium.

Thomas Holmes, a large and powerful man, about 50 years old, was admitted, under the care of the senior surgeon, on the 22d of August last. The patient having been occupied for many years as a coal-heaver, in the Wesminster gas factory, had addicted himself to free potations of malt and spirituous liquors, a custom which the laborious nature of his duties justified to his own mind. The plea for his admission was an injury to the forearm, which was highly inflamed and tumefied. Two days previously, whilst carrying a heavy load,

* Treatise on the Diseases of the Eye, p. 425, Lond. 1833.

he fell upon his left arm. He felt a great deal of pain in the part, but continued his occupations till the close of the day. The next day he remained at home, unable to work, and suffering greatly.

When admitted, the swelling obscured the nature of the injury, but the house-surgeon, suspecting a fracture, placed him in bed, ordered him a low diet (in which tea is the most stimulant beverage permitted), and having placed the affected limb on a pillow, caused leeches and lotions to be applied. Some sympathetic fever also existing, he gave the patient saline aperient medicines. These remedies effected but little benefit. On the evening of the 24th August, Holmes became exceedingly restless and irritable, and at 10 P.M. he was perfectly delirious. He imagined himself surrounded by hideous monsters, from whose power he was making perpetual efforts to escape. All the voluntary muscles were tremulously agitated, and his eyes, lips, and alæ nasi, in continual motion; the conjunctiva of both eyes was injected, and the pulse rapid, but feeble. Half a grain of muriate of morphia was now administered, in the shape of a pill.

25th.—The patient had a good night's rest. The pulse, however, still remained small and rapid, and the tongue was brown. Though much quieter than last night, he is yet under the influence of his illusions. He is now ordered ten drops of laudanum every four hours, with ammonia and camphor julep in the ordinary doses. Having swallowed two doses of this mixture, the symptoms returned with redoubled violence, and it became necessary, for his own sake, to restrain the patient with a straight-waistcoat, and, for the sake of his fellow inmates, to place him in a separate apartment.

4 P.M.—The poor fellow still continues violent, starting up frequently, struggling to extricate himself, and remonstrating in a ludicrous manner with his attendants.

Half a grain of Morphia now administered.

10 P.M.—The morphia has produced no palpable effect. He has been very unruly, shouting and talking perpetually.

A grain of Acetate of Morphia administered.

26th.—The effect of the morphia became visible a short time after its administration. The patient had some sleep in the night, but the delirium is as violent as ever this morning. He refuses all medicine; he is perpetually muttering and talking, and every limb, if not every muscular fibre, is in continual action. He is bathed in perspiration. The pulse is as rapid and feeble as ever.

Thirty minims of Battley's solution of Opium now given to him.

1 P.M.—A grain and a half of Acetate of Morphia exhibited.

5 P.M.—No material amendment has occurred. A drachm of Battley's liquor, in a solution of starch, injected into the rectum.

10 P.M.—The delirium is apparently unassuaged.

Two drachms of Battley's liquor thrown into the rectum.

Midnight.—He is tranquilly asleep.

27th.—Holmes slept well all night, and he is quite rational this morning. The pulse is 60 and soft, and the tongue moist, but whitish. He is in low spirits. The bowels being confined, a dose of calomel and colocynth is administered.

The forearm is now carefully examined, and the tumefaction having very much abated, Mr. Dasent has ascertained the injury to be a simple fracture of the radius and ulna. The forearm is placed in splints.

31st.—The poor fellow is rational and cheerful; his countenance is perfectly tranquil; the cuticle covering the lips is exfoliating; the tongue is highly furred; the bowels act regularly. He has no headache, and sleeps well. He has swallowed small doses of opium daily, but he is still on low diet.

September 4th.—The patient is convalescing.

21st.—Quite recovered, but he still wears splints on the forearm.

Abscess of the Os Femoris, cured by Trepanning.

Isaac Childs, 33 years of age, a patient of Mr. Lynn's, has an oblong granulating sore, extending in a line from the trochanter major of the left thigh to the length of about six inches towards the external condyle, along the outer edge of the vastus externus. Small spiculæ occasionally exfoliate from the femur, keeping up much constitutional irritation. He has often a dull pain in the trochanter major. The muscles of the thigh are much atrophied, and the outline of the femur is consequently easily traceable by the eye. The man spends his time principally in bed, and presents an unhealthy and pallid appearance.

The patient has the greater part of his life been occupied as a labourer. In early life he had contracted the venereal disease several times, and had taken a vast quantity of mercury, and suffered frequent and severe ptyalism. In course of time, secondary symptoms developed themselves; pains in the bones, nodes, sy-

philitic lichen, but no sore throat. These were removed by blue pill and sarsaparilla. With a naturally weakly, phlegmatic constitution, thus further debilitated by disease, he was in an evil hour induced to enlist in the Britannico-Iberian Legion, and accompanied his regiment to the Peninsula. There, after a very little campaigning, his old rheumatic or venereal pains returned; an acute pain extended outside of the thigh, from the trochanter to the condyle. An abscess formed and broke about six inches below the trochanter. Similar apostemata appeared upon various points of the surface, such as the throat, the nape of the neck, the thorax, &c. From these, pus flowed copiously, and was of a laudable colour and character. He was placed under the care of Mr. Rutherford Alcock, the inspector-general at the Convent of San Telmo, St. Sebastian. He was treated in that hospital for many months, but the abscess could not be got to heal, although the patient was placed in circumstances most favourable for recovery. He was accordingly discharged as unfit for service in July 1837. On his return to London, he became an inmate of St. Bartholomew's Hospital. Mr. Skey made a long incision downwards from the trochanter in the course of the *linea aspera*. A seton was then inserted in the integuments, from which he derived some ease. After his dismissal from St. Bartholomew's, he was sent by Mr. Alcock to the Westminster Hospital.

When the patient first came under the care of Mr. Lynn, the seat of pain was a point of the femur, about six or seven inches below the external trochanter. On the 2nd June last Mr. Lynn had the man removed into the operating theatre, and having laid bare the femur in the proper manner, trepanned the bones, a quantity of pus escaped, and several portions of carious bone were removed. The patient was signally relieved by the operation. The wound healed pretty quickly, and Childs was soon enabled to walk with crutches. His appetite and strength gradually improved, and his habit became fuller. An occasional return of pain in the trochanter, however, throws him back for a time, but upon the whole he is progressing. The wound presents the appearance of a deep sulcus in the direction already described. The integuments are drawn over the sides, and a line of granulating surface is seen at the bottom.

Sept. 2nd.—The wound is not yet cicatrized. The patient's health and strength are much improved.

21st.—He is much better, and walks about with one crutch.

THE UNIVERSITY OF LONDON AND UNIVERSITY COLLEGE.

To the Editor of the Medical Gazette.

Sir,

In the last page of a detailed prospectus of medical lectures to be delivered in University College, London, there is the following notice:—"Students of this College, as one of the institutions connected by royal charter with the University of London, will be entitled to be examined for Degrees in Arts, and for Honours, Exhibitions, and Scholarships, to be conferred by the Senate of the University, &c." I would ask who has authorized the secretary of University College to hold out to young men the inducement to matriculate at the London University, which is implied in the words, "Exhibitions and Scholarships to be conferred by the Senate of the University?" The London University has no endowments or funds of any kind, and therefore has not either exhibitions or scholarships to confer. The want of truth exhibited in the paragraph I have quoted, has caused in my mind the suspicion that some unworthy motive has induced the directors of University College to issue such a notice, and that it has been done in concert with the advice or by the authority of some member or members of the senate of the London University. I am confirmed in my suspicion by reading a notice referring to the same subject, issued by King's College, which, equally with University College, is "connected by Royal Charter with the University of London." The notice is as follows:—"Attendance at King's College qualifies for a degree in the University of London." How different the terms of this notice! Here is truth.

One object in writing this letter is to call your attention to the subject, in order that medical students may be guarded against the false hopes which the paragraph already alluded to is so calculated to induce. If any parent should prefer University College as a place of education for his son, because he thinks the Professors are eminent in the separate branches of knowledge which they teach, I should not be disposed to find fault with his choice, but let him not do so in the hopes that the youth might be a successful candidate in obtaining a scholarship, which would diminish the expnces of his education.

I have no intention of discussing the conduct of those into whose management the Senate of the London University ap-

pears to have fallen, yet I cannot refrain from adding my opinion to those which have already been given in your journal, of their plan of medical education. The "proposed curiculum of the London University" (as detailed to us in a letter published in your journal for August 11, and which letter, signed C. L., is said to be written by a member of the Senate of the University) is not in my opinion an improvement of our present mode of educating physicians and surgeons. It only affords another proof of the erroneous view of education entertained by the framers of medical regulations of which our several medical institutions have already given us proofs. It makes the *teaching of the lecture-room* preferable to the knowledge to be gained in an hospital. The curriculum is, as a writer in your last number says, "but a copy of the regulations of some of the Scotch Universities, in which the *professorial** system is exalted, and the *practical* thought of only as subordinate." One of the worst effects of such a system is the adoption, by the idle student, of "cramming" for an examination, in the place of acquiring sound theoretical and practical knowledge, by observing, comparing, and recording facts, under the teaching of hospital physicians and surgeons.

I have said, however, that my intention is not to *discuss* the medical regulations of the University of London, but to expose the implied want of truth contained in the notice regarding the degrees of the University. Whether the terms of this notice have been framed with a view of inducing young men to matriculate at the University of London, or of increasing the number of pupils at University College, the object in either case is unworthy of corporate bodies of men professing to be learned. Should I succeed in drawing attention to their conduct my object will be gained.—I remain, sir,

Your obedient servant, Δ.

[The name of the writer has been sent to us.]

EXTRACTS FROM FOREIGN JOURNALS.

SIMULTANEOUS DISLOCATION OF BOTH THIGHS.

A SAILOR was sitting astride a plank, when a wave suddenly forced him up up against a cross beam, which struck his back violently, while the plank was still between his legs. The poor fellow was lying on his back, when Dr. Sinogowitz was summoned to his assistance. Both limbs were quite motionless, and evidently much deformed from their natural figure. The thighs were separated the one from the other, and could not be approximated; the trochanters were much lower and less prominent than usual, and the muscles of the hips over them were in a state of extreme tension. The body was bent immoveably forwards and downwards upon the thighs, the knees were moderately flexed, and the toes were not turned either inwards or outwards. The diagnosis, therefore, was, that the heads of both of the thigh bones were dislocated downwards and inwards. The reduction was effected in the following manner: — The pelvis being secured by two assistants, the surgeon took his place between the limbs of the patient, and having put a towel round the right thigh above the knee, he passed the noose of it over his own neck. Extension was then made by means of a towel made fast above the ankle, and inclined a little to the left side, and while this was steadily continued, Dr. S. lifted the head of the bone, and directed it upwards and somewhat outwards, by raising and stretching out his head with all his power. It slipped into the socket without any noise. The limb was then reduced in nearly a similar manner. The mobility of the limbs was almost immediately restored, at least in the horizontal position; but several months elapsed before the patient could walk with any degree of ease. The tediousness of the recovery was owing, in a very great measure, to the severe injury of the lumbar vertebræ, which he sustained at the time of the accident. For three weeks, the sphincters of the bladder and rectum were quite paralyzed. — *Preussische Medicin. Zeitung.*

ANIMALCULES DEVELOPED IN PUTREFACTION.

AT a recent sitting of the Institute, MM. Beauperthuy and de Roseville presented a memoir of microscopic animalcules as a cause of putrefaction. The results to which their investigations lead them are as follows:—When an animal substance is placed in circumstances favourable to putrefaction, one sees after a certain time (varying according to the temperature, and hygrometric state of the atmosphere) animalcules formed, and this before any faint odour has been developed, and even before the material presents any indication of an acid or alkaline property. These animalcules, which have at first the form of monads, then that of vibriones, are nourished at the expense of the substance in which they are developed, and multiply

* The word "*professional*" is, I presume, a printer's error. [Probably it ought to have been "theoretical."—ED. GAZ.]

with extraordinary rapidity. 2nd. At a more advanced period, when the liquid will redden litmus paper, the microscope recognizes the animalcules in very great numbers, particularly in the brownish pellicle with which the surface of the liquid is covered. A considerable number of crystals is also now formed, intermixed with the animalcules; but still no kind of odour is perceptible. 3rd. Still later, the liquid becomes charged with particles detached from the animal substance immersed in it. These particles are all formed of animalcules collected on small portions of the debris of the tissue; and at this period an odour is first manifest, which is at first faint, and soon after becomes putrid. 4th. At a fourth and last period the animalcules are found in myriads; and there is a period when the whole mass of animal substance, entirely disorganized, is formed only of these elementary beings. The liquid, which has then become alkaline, has an extremely putrid fœtor.—*Archives Générales de Médecine*, June 1838.

M. CIVIALE ON CYSTIC OXYDE CALCULI.

M. Civiale has presented to the Institute four cases of cystic oxyde (or as he calls them, cystine) calculi, which he has met with. From these, and fifteen cases to which he makes references, he concludes that the cystic oxyde is a product of the secretion of the kidneys, so that either of the names usually given to it is improper, the one expressing an error in physiology as the other does in chemistry—that cystine may exist in variable quantities in the urine for a long time, and in a constant or uninterrupted manner; that it may alternate with the other principles of the urine, and be associated with them in the formation of calculi, or in the liquid state, but that urea and uric acid are the substances with which it is found most rarely associated.

The history of this species of calculi, he remarks, presents a striking peculiarity, in that several cases are often found in the same family. The patients of whom Marcet speaks were brothers. Prout's patient had a twin brother who suffered from calculus, which there was much reason to suppose was of the same description. The two patients whom M. Civiale had heard of at Meaux, affected with cystic oxide calculi, were brothers; and lastly, four patients treated by himself were brothers: so that out of nineteen patients suffering this species of calculus, ten were members of only four families, and of these four were brothers. Of the other nine cases, moreover, nothing was known of family history of the patients.—*Comptes Rendus des Séances de l'Institut*, June 25, 1838.

REMOVAL OF NAILS GROWING INTO THE FLESH.

M. Neret recommends for this purpose to push a spatula rapidly under the nail from its extremity to just beyond its root; then by raising the spatula forcibly upwards, and lifting it at the diseased side, the nail may be separated from its subjacent connexions, and easily pulled away. He says, this method never fails, and that it gives but little pain! !—*Archives Générales de Médecine*, June 1838.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, September 13.

John Hyde Houghton, Dudley.—Benjamin Edwards, Coalbrookdale.—Richard Griffiths, Worcester.—William Mark Powell.—Samuel Hale Bibby.—Charles Somerville, Bloxwich.—Joseph Tillett Jay, Norwich.—William Brailsford, Enfield.—Frederick Danford.—Thomas Hitchings, Oxford.—Henry Bloxam.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Sept.* 25, 1838

Age and Debility	23	Brain	2
Apoplexy	2	Lungs and Pleura	2
Asthma	1	Influenza	1
Consumption	19	Liver, diseased	2
Convulsions	11	Measles	1
Croup	2	Miscarriage	1
Dentition or Teething	4	Mortification	1
Dropsy	3	Paralysis	1
Dropsy in the Brain	3	Scrofula	2
Erysipelas	2	Small-pox	9
Fever	9	Sore Throat and Quinsey	1
Fever, Scarlet	3	Spasms	1
Fever, Typhus	1	Thrush	1
Heart, diseased	2	Tumor	1
Hooping Cough	7	Unknown Causes	30
Hydrophobia	1		
Inflammation	1		
Bowels & Stomach	3	Casualties	5

Decrease of Burials, as compared with the preceding week . . . 88

METEOROLOGICAL JOURNAL.

September.	Thermometer.	Barometer.
Thursday . 13	from 45 to 66	29·41 to 29 21
Friday . . 14	44 63	30 08 30 06
Saturday . 15	48 64	30·02 30 00
Sunday . . 16	44 69	29 99 29·97
Monday . . 17	47 66	30·02 Stat.
Tuesday . . 18	47 65	30·00 29·90
Wednesday 19	51 59	29·89 29 81

Winds, S.W. and N.E.

Except the 15th, 18th, and following day, generally clear; rain fell on the 17th and 19th.

Notice.—We regret that we cannot give insertion to the paper on Animal Magnetism.

Wilson & Son, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, OCTOBER 6, 1838.

LECTURES ON SURGERY,

DELIVERED AT ST. THOMAS'S HOSPITAL,

BY THE LATE MR. CLINE;

With Notes.

[THESE lectures were written by Dr. Wilkinson when attending Mr. Cline's lectures, in the years 1787-88-89.

Extract of a letter from Dr. Wilkinson, dated Feb. 6, 1838:—"They (these lectures) are the results of six courses of lectures I attended at St. Thomas's, in 1787, 1788, and 1789; and I am in hopes I did not omit any interesting part of Mr. Cline's valuable observations. The one I had the pleasure of giving you is the repeatedly corrected copy."]

LECTURE II.

Operation for Hare-lip — Extirpation of the Tonsils—Elongation of the Uvula—Hemorrhoids—Polypus of the Uterus—Polypus of the Nose—Bronchotomy—Wry Neck.

Hare-lip.—The lip is so called when there is a fissure dividing it into two. It is only in the upper lip where such fissure occurs. Sometimes there are two fissures—then called a double hare-lip; one is situated on each side. Not unfrequently in such cases, the fissure is not confined to the lip alone, but is likewise extended through the bones, making a fissure in the maxilla superior, extending through that bone, the palatine process, likewise the os palati, leaving a communication between the mouth and nose, so that the child when it swallows has part of the fluid escaping through the nostrils. Sometimes children are born with such a defect of the velum palati, without the bones or lip being concerned: sometimes the bony palate is affected without the lip or velum palati. It is the fissure in the lip only that is curable by an operation*; but the division in the bone may be remedied by an artificial palate. The instrument-makers fasten a bit of cork on a small plate of silver adapted to the size of the division of the bone; on the cork is a piece of sponge, which passes upwards into the nose, and keeps the plate supported, whilst it is as easily removed and cleaned from time to time. This is of great use to the patient, who is hence capable of swallowing better, and speaking more distinctly. But this instrument should not be introduced in a growing child, because it might tend to enlarge the opening.

In the hare-lip the edges should be pared, occasioning a raw surface; by bringing them in contact union will be produced, whereby the deformity without can be remedied. This cannot be performed at all times, as when a child is sucking, for it will be incapable of sucking till after the wound is healed, thus obliging us to wean the child at an early period. Therefore it is better to perform the operation after the child has done sucking. Many object to its being performed before the age of five years; however, it has been frequently performed with success before that time. It is a simple operation, and used to be done with a pair of scissors, which, however, rather pinch than cut, which is more unfavourable for the cure†, therefore a knife is preferable; or, what is perhaps still better, a lancet. Before the edges are pared, the lips should be raised from the

* The experience of late years has shown that the fissures of the palate are remediable likewise by operation.—C.

† Mr. Lawrence and other distinguished surgeons recommend the scissors *with knife edges*, as being particularly convenient in this operation, for they cut with great facility, and do not bruise the parts.—C.

gum. By holding up the lip, and dividing the membranous connexion, you have a greater command; in doing this, it is necessary to introduce a piece of pasteboard underneath. If the operation be performed with a lancet, which is preferable, from its cutting with such great ease, you thrust it through, and draw it up quite to the angle; as little as possible should be cut, the making a raw surface being all that is necessary; the more you cut off the greater will be the difficulty of bringing the parts into contact. To confine the edges pins are used, which may be either silver or gold; if silver, they should have steel points, which may be taken off. When gold, they are sharp enough without having any part to take off. Three pins are commonly used, but two are quite enough; these are to be passed through, from the outside of the inner edge of the lip, then out on the opposite side; bringing the parts in contact, you introduce the first pin near the edge or villous surface, but not in the part where it is most vascular. The second pin is to be introduced midway between the first pin and upper edge or angle of the division. We then pass the ligature round each pin, to keep the edges together in the form of an 8. The points of the pins, if steel, should be removed; if gold, some wax may be put on the points, to prevent their irritating the lips, over which some sticking-plaster may be applied. Authors differ very much respecting the time that pins should be retained. Le Dran says they should be taken out in a few hours, while many contend they should be left in for ten days. It is very certain that in forty-eight hours a tolerably firm union will be produced, and in many cases they may be safely removed; but in others if removed in so short a time, a separation will take place. This happened to me once on the fifth day after the operation. The union may be produced by the common interrupted suture, which I think is equal, and lying softer on the parts is not productive of so much pain as where there are pins. In either case, the necessity of leaving the pins or ligature will be the same. In an instance in which I performed it on a child two years of age, the gentleman who attended with me removed the ligatures on the second day, when very good union seemed to be produced; it remained in this state during some time, when the child was seized with a fit of crying, during which the wound again opened, not completely, but about one-third from the edge; this was attended with some deformity, but gradually wore off, as the child grew up. Another case occurred to Mr. Else; on the third day after the operation, he took the pins out, the child instantly began to cry violently, and completely separated the edges of the wound. In all these cases, where the child is so young as to be in danger of separation taking place, it would be better to keep in the ligatures six or seven days; but in an adult who has command of himself they may be removed on the second or third day. In those cases where there is more than one fissure, the process should be performed at twice, letting the first get well before performing the operation on the other; to operate on both sides at once, will be productive of great inflammation, and will be putting the parts so much on the stretch, that you will be less likely to succeed. When there is a double fissure through the lips, and likewise through the jaw, a considerable projection takes place, probably from the lip being divided in that manner, and not restraining the growth of the parts, of course the upper jaw is more projecting than the under; there have been instances where the four incisors of the upper jaw have been quite projected over the under lip. The difficulty in the cure will here be great on account of the prominence over which you are to bring the divided lip. Where the jaw is considerably projected, it would be right to remove a portion. This was done some time ago on a child in this hospital by Mr. Girle. He took off the projecting portion of the four incisors with a pair of pincers; on removing it a considerable hæmorrhage took place, probably from the palatine branch of the internal maxillary artery. To stop this hæmorrhage, and be able to bring the middle portion of the lip in contact again, one of the pins with which he performed the operation, was passed through the lip and through the bone; this stopped the hæmorrhage, and produced union between the lip and divided bone. Mr. Else said his case got well with but very little deformity, and which did not appear when the mouth was shut. There have been bandages contrived for performing this operation without the use of pins and ligatures, of which there is a very ingenious one invented by Mr. Dent, of Ireland—a kind of uniting bandage; this cannot be depended upon at first, but may be very conveniently used in many instances after the removal of the pins or ligatures, as a further support, and to prevent suppuration.

Extirpation of the tonsils.—The tonsils sometimes become extraordinarily enlarged from a diseased state, and produce such inconvenience as to require their removal. They are very subject to inflammation. When inflammation is taking place about the throat, these are generally

more inflamed than the contiguous parts; they seem to be particularly susceptible of disease. The same occurs in the venereal disease—the greater number of ulcers are in the tonsils. In those cases, where they become inflamed in consequence of cold, they often become very much enlarged, and one projects towards the other, sometimes so considerably, that they meet, filling up the fauces, stopping deglutition, and producing great difficulty of respiration, being situated so near the epiglottis. In such cases their size should be reduced as speedily as possible, which may sometimes be effected by the antiphlogistic regimen and blisters in the neighbourhood of the part, as behind the ears, neck, &c. But when there is urgent necessity, as where the increased size of the tonsils is so rapid as to endanger suffocacation, it is advisable to scarify them, making a few small punctures on the part, which being vascular, they soon become less, from the immediate hæmorrhage which follows. This will sometimes be better effected by strewing some crude sal ammoniac* on the surface of the gland, which almost immediately produces a slight excoriation and hæmorrhage from the parts, with almost immediate relief. Sometimes the tonsils will go on to suppuration, though very rarely; when it is so, the pus should be evacuated by a puncture. Some persons are very subject to such inflammations, for in many instances of those who have had their tonsils once inflamed from a very slight cold, are subject to have them inflamed again; the consequence of which is, that at last they remain in an enlarged state: after the inflammation is abated, they do not return to their former size, so that the patient has a thick speech, as if there was something at the posterior part of the mouth. This enlargement will remain in an indolent state, and often cannot be removed by any application: indeed sometimes the enlargement and hardness are so great as to require an operation. When the tonsils are in this enlarged and indolent state, independent of actual inflammation, they are generally called scirrhous, not that they are of a cancerous tendency,—indeed I never saw a cancerous tonsil; you are seldom able to remove them entirely, still they do not return, which they would do if of a cancerous nature. Their removal used to be effected by excision; but this is usually attended with a considerable hæmorrhage, being a very vascular part, hence difficult to restrain. It has been found necessary to use the actual cautery to effect it; to prevent which, some have torn them away with very strong forceps; this is a very cruel violent operation, and very dangerous; for you are not sure of removing the tonsil alone, but may remove some important contiguous part at the same time; therefore, both these modes are improper.

Mr. Cheselden has contrived a very ingenious instrument for tying the tonsils—a tonsil probe, which is an eyed probe in a handle, threaded with a double ligature; also an iron with an eye at each end, for the purpose of fastening the ligature. This probe is intended to carry the ligature under the basis of the tonsil; you pass it into the mouth over the tonsil, then bring out the probe, and you have the ends of the ligature out of the mouth, and the thread itself around the root of the tonsil: upon this make a common knot, and as it is out of your reach to command the ligature with your fingers, the tonsil instrument is to be used; one end of the ligature is to be passed through the eye of the instrument, which being passed down and thrust beyond the tonsil, and the other end being drawn towards you, a firm knot may be made. In the same manner you make a second knot, and carry the instrument as before into the mouth, thrust one end from you and draw the other to you, then cut it pretty close. Thus, a ligature being tied on the root of the tonsil and around it, will form a groove, so that there will be no danger of its being separated. This ligature will not be sufficient to stop all circulation through the tonsil, the basis is of such breadth; it will become inflamed by this pressure, and somewhat enlarged, and ulceration will take place where the ligature was applied. You then apply a second ligature in the same manner, drawing it as tight as you can: this will stop all circulation, the part will die and fall off; repeating the ligatures if necessary.

Mr. Russel, of Worcester, ties the tonsil without any probe, which he has practised for many years, in which he is very dexterous, having long fingers. When you can make use of a finger, it is always preferable to any instrument. We every now and then have tonsils whose bases are so broad and tapering towards their extremity, that you cannot fix a ligature on the base. Under such circumstances a single ligature is not sufficient. Mr. Cheselden has contrived a tonsil needle, threaded with two ligatures, one of which is coloured, that we may distinguish them from each other; this should be introduced into the mouth to the further side of the basis of the tonsil. When the eye of the needle is passed through, we get hold of the ligature with a common dissecting hook, bringing it out at the mouth; then you keep it fixed and withdraw the

* Sir A. Cooper recommends the application of the nitrate of silver, or sulphate of copper, in these cases.—C.

needle. One of the ligatures is to be tied over one half, and the other around the other half, as before directed, with the tonsil iron. The needle should be much bent. This operation is tedious and embarrassing, from the great irritability of the parts; and the increased secretion excites the patient continually to cough. In this way the whole of the basis of the tonsil is inclosed; the ligature should be cut off short; if left long it gets into the pharynx, and there produces irritation. This is a very convenient way of performing the operation, as it prevents the ligatures slipping; and they make such an impression on the basis, that you may easily apply a second ligature when single ones will be sufficient. The only difficulty is in getting the needle through.

A ligature is thus to be repeated till the tonsil falls off. This is a case in which this kind of treatment is attended with very good effect, as there being no cancerous tendency in the part the patient finds no inconvenience afterwards. Mr. Warner gives a case, in his Surgery, of a tonsil he removed by excision, attended with a hæmorrhage, which he stopped by astringent gargles. It is not only the tonsils we remove in this way, but various other tumors, which are necessary to be removed, where instruments of the same construction, though varied according to the size of the parts, are very useful, as excrescences in the rectum, &c.

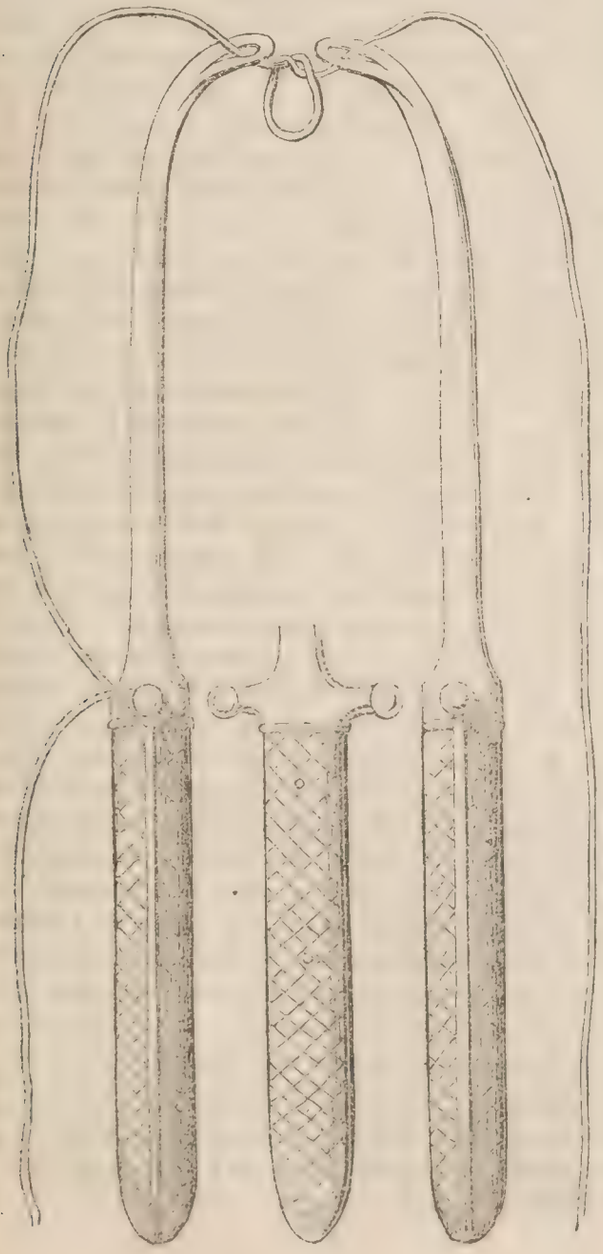
Extirpation of the uvula.—This sometimes becomes necessary from a diseased elongation of the part. In persons who are very subject to inflammation about the throat, the uvula partakes of it, becomes enlarged, and elongates; from which state it does not return to its former size. Stimulants applied to the part will sometimes occasion it to relax, at others it will resist all stimuli. The elongated uvula irritates the glottis, produces coughing, or sometimes tickles the pharynx and excites vomiting. When this is recent, it will frequently contract on the application of astringents; if not, a part of it should be removed, which is a very simple operation. Introduce a pair of scissors upon a long pair of forceps which has previously hold of the uvula; then take off as much as is preternaturally elongated. A very inconsiderable hæmorrhage follows, and the patient will be well in a few days: if troublesome, an astringent gargle may be made use of.

Piles.—These consist of varicose enlargements of the internal hæmorrhoidal veins; sometimas there is a diseased thickening of their coats, forming a hard tumor. They are sometimes so large, and have been of so long continuance, that it is impossible to remove them by medicine, or any external application. When they are large, and occupy a large portion of the inferior part of the rectum, this is thrust downward, producing a prolapsus, attended with pain, at every attempt to void the fæces. Patients in this state are very apt to become worse from being costive. The frequent desire to go to stool, if possible, from the pain it produces, increases the size of the piles, and this again accumulates the hard fæces; they are with great difficulty passed through the rectum. Therefore such patients should particularly guard against costiveness. But when in this enlarged state, and medicines prove of no use, they should be removed. This was formerly done by excision, which is now laid aside, from the hæmorrhage which follows; therefore, ligaments are preferred, which is very convenient when the rectum protrudes readily. For this purpose the patient may be directed, before the operation, to sit over the steam of warm water, and to strain as if at stool, whereby the rectum may be forced down. If there are several they should not be tied at once, as the patient could not support the pain and inflammation, two or three at a time being generally sufficient; this done, the rectum should be returned; if left out it would soon become in a strangulated state, inflammation increasing its size. The ligatures are left on till they fall off spontaneously. These tumors are so small, that you may readily compress them, so as to prevent any circulation through them. After the first are removed, and the inflammation subdued, you may tie two or three more; and repeat this till they are all extirpated. After this the patient voids his fæces with more ease, and without producing prolapsus ani, which, however, is not always the consequence of piles, and then they are not so easily removed. In this case the piles are situated in the internal surface of the rectum, and then it will be necessary to secure them somewhat in the same manner as the tonsil; the same holds good if any scirrhous tumors are formed in the inside of the lower bowel. Mr. Else had a patient once with several of these tumors, situated in the rectum about as high as the fingers could reach, rather higher than could be commanded by any instrument; he was therefore obliged to cut through the sphincter ani, and was further assisted by the speculum ani, which is very convenient when any operation is necessary in the rectum, as it gives you a better command of the part. After dilating the rectum a little posteriorly, he was enabled to tie them. They soon fell off, and the patient, from suffering constant and extreme pain, became immediately easy, which, however, did not continue long; for after six or

eight months the pain and tumors returned, and the rectum soon became in a cancerous state, which destroyed the patient. In this case, probably, if the patient had submitted at an earlier period, he might have been cured; but the parts below being diseased, endangered a return of the complaint.

This operation may also be performed to remove—

Polypi uteri.—These often extend through the os tincæ, and grow so large as to project through the os externum, which produces considerable pressure on the contiguous parts, from their dilating the vagina, of course attended with pain and great inconvenience to the patient, therefore they should be removed, which is most conveniently done by the instruments above described. These polypi uteri project through the vagina, when they can be distinctly felt by the finger, and may be safely tied; but we should be very careful that we are tying the polypus, and that only; for if any of the uterus is included, the patient's life is in the greatest danger. These polypi have, in general, narrow bases. When you can distinguish the os tincæ, you make use of this instrument, contrived by Dr. Hunter, a kind of tonsil iron, curved a little, and fixed in a handle with two shoulders, or lateral projections near its extremity. (See preceding figure.) You pass both ends of the ligature through this, then carry it down to the basis of the tumor; the ends of the ligature are to be brought over the shoulder on each side of handle, and tied by a slip knot, leaving in the instrument. The great advantage of this instrument is, the ease with which you can increase the pressure at different times. Every day draw the ligature as tight as you can, till it has made its way through the polypus, taking particular care that you include nothing else, which you may be pretty sure of if it gives no pain, a polypus not being a sensible part; whereas, if the patient complains of pain, you may be sure some other part is included. We should at first, in all such cases, ascertain the extent of the disease before the ligature is attempted.



Polypus of the nose.—The polypus that forms in the nose originates from the mucous membrane, where there is frequently a soft excrescence of a cream-like colour, very much like the appearance of mucus. When these increase considerably in size, they are sometimes situated forward in the nostrils, sometimes backward in the pharynx. The nose externally becomes enlarged, and and the bone is altered in form: it obstructs respiration, and occasions an alteration of voice. The operation is very simple, and consists in getting hold of the polypus as near the root as possible, for it is so tender as to be easily torn through, and if you do not take it out by its root, you will only give slight relief to the patient. If you can introduce the finger it will be the most convenient instrument, by which you may force it off; at the same time you will be assisted by getting hold of the polypus with a pair of forceps; then you will be able to command it better than with the forceps only. The French direct ligatures to be made on the polypi for their removal. In this way they are not so completely removed as by extraction; therefore the patient would be liable to return of the complaint. A ligature being made on the part may assist in some degree in bringing it forward. When the polypus is very large, and projects backwards into the pharynx, so that it cannot be drawn through the nostrils, it will be better to get hold of it with a pair of curved forceps, introduced under the velum palati, drawing it downwards and a little backwards. The curved forceps is also necessary where a polypus is situated far back in the nose, for straight ones may pass over it. Their re-

moval is generally attended with a moderate hæmorrhage, for which some dossils of lint, applied so as to make pressure on the part, will be sufficient; and if threads are tied to them they will be more easily removed. Sometimes the polypus adheres to the bone, a small portion of which coming away is favourable; after which it is less liable to return. There is sometimes such a disposition throughout the membrane to form polypi, that they grow again as fast as they are removed. There is besides another enlargement of the membrane, also called a polypus, but very different in form: in this a thickening of the membrane takes place, putting on a dark purple-coloured appearance. This is generally of a cancerous nature, mostly attended with pain; and when you extract it you only increase the disease. This will also destroy the patient sooner or later, for, being of a cancerous nature, it goes on increasing. It ought to be carefully distinguished from the other, and should not be meddled with, as it only exasperates the disease.

Bronchotomy.—This operation consists in making an opening into the trachea for the purpose of respiration. This is sometimes necessary to prevent suffocation taking place. Various causes may make this requisite; as extraneous substances getting in to the upper part of the larynx and sticking between the ligaments of the glottis, will produce almost immediate suffocation, if not instantly coughed up; and the food going the wrong way may be so wedged in that it is impossible to cough it up; of which there was an instance in this hospital in one of the nurses, who, while she was eating some beef, suddenly fell down from her chair and expired: it was found that the piece had stuck in the upper part of the larynx. From the epiglottis not performing its office, any aliment may get in, as happens with respect to fluids, in laughing, &c. Another instance was that of a beggar, who, while asking alms in the street, having food in his mouth at the time, suddenly fell down and expired: one of the resurrection-men passing that way, mixed with the crowd, and, seeing the man dead, thought it a good opportunity to come at a body, so he claimed the beggar as one of his relations, and took him in a coach to the hospital! On dissection, a piece of cabbage-stalk was found in the trachea, for he was eating cabbage at the time. In this instance there was a destruction of the epiglottis by exulceration. Fluids are incapable of obstructing respiration, but solid food getting into the trachea will endanger suffocation. In either of the above cases, had an opening been made into the trachea, respiration would have gone on by the opening, and life would have been saved. Suffocation may also happen from other causes, as tumors situated in the neighbourhood of the trachea, or matter between the larynx and pharynx, inflammation taking place in the larynx occasioning a thickening of the mucous membrane, so as to prevent respiration going on in that part of the tube; therefore, in the disease called the *croup* in Scotland, which we now and then see in this country, when, from inflammation of the air-tube, a quantity of coagulable lymph is thrown forth, which sometimes so obstructs the aperture as to produce suffocation, from which children frequently die: in either of these cases, where there is a danger of suffocation, an opening should be immediately made into the trachea; as it is a well-known fact that a mere wound in the trachea is of no consequence. This is a very simple operation, and may be done with any instrument. The manner of performing it is by making a longitudinal incision from the cricoid cartilage down on the fore part of the trachea. The cricoid cartilage is very readily distinguished by the feel. Laying the larynx bare, you will next cut between the cartilages, if you can; but if you divide them it is immaterial. The patient's head should be inclined forwards, to prevent blood getting into the air-tube, which it would irritate considerably. Even common air has this effect in a catarrh. We are directed to introduce a silver canula * for the patient to breathe through, but I much doubt whether it ever was or ever can be used; for the internal membrane of the trachea is an exceedingly sensible part, where, from the introduction of any extraneous body, such a violent degree of coughing would be produced as to be intolerable to the patient. Besides, if the opening is large enough, a canula will be unnecessary. If no more injury is done than wounding the trachea, the patient frequently gets well; therefore, in such cases, it will be better not to use any canula, but merely to make the opening large enough. Apply no dressings, only a piece of gauze over the part, through which the patient may breathe. This operation was performed on a child, dying of the croup, by Mr. Andrée, by making an incision into the trachea, with success. When extraneous substances get into the larynx, endangering suffocation, if a surgeon is present, it would be proper to take a knife or lancet and open the trachea. Even if the patient has done struggling, by blowing air into the

* In many instances where bronchotomy is required, the introduction of a silver canula is found to be absolutely necessary; and although in some cases much irritation is produced, yet in others it is borne with very trifling inconvenience.—C.

lungs, after making an opening, respiration would return, and the patient might be saved, in the same way as with persons who have been apparently drowned or otherwise suffocated; by inflating the lungs, respiration is again produced. When I was first at this hospital, a man died here in the passage, from a glandular tumor situated in the throat. He had been in the house for some time, and used to breathe with extreme difficulty. One day, while I was dressing some patients in the ward, he was making a great noise, and all of a sudden fell down; and after a few struggles expired. Had bronchotomy been performed, he might probably have been saved.

Wry neck.—Now and then, from a diseased contraction of the sterno-cleido-mastoideus muscles, the neck is turned on one side, and kept immovably fixed; the muscle becomes rigid, entirely losing its ductility. Its fibres lose their capability of elongating, and the whole muscle becomes in the same state as a tendon. While this disease is forming, the muscle gradually shortens and throws the head on one side, in which state it remains. Where the complaint affects the mastoid only, it may be removed by dividing the muscle. If the contraction has taken place at an early period in life, probably the bones will have undergone such an alteration in their form, that dividing the muscle merely will not remove the complaint. However, if the growth is not complete, there is a chance of recovery by the child using a machine to keep the head upright, and the bones undergo such an alteration that the natural position of the head may be restored. This operation consists in laying the mastoid muscle bare, near to its origin. Some have directed it to be divided in the middle, but here it is improper, on account of the situation of the carotid artery, which is there passing very close to the muscle; therefore it is better to divide it near its origin. The incision is made a little above the clavicle, in the direction of that bone; laying bare the muscle under which the the syringotome, or probe razor, is introduced, by drawing of which through, the muscle is divided. Some lint should be introduced, and the head kept in a proper position, or confined by bandage. Mr. Gooch, in his Surgery, gives a case where a similar deformity was produced by a contraction of the platisma myoides, which he divided with a knife, and the patient perfectly recovered. Other muscles may be divided for the same reason, as the biceps flexor cubiti; but to divide the brachialus internus would be improper, on account of the situation of the brachial artery. The mastoideus may safely be divided, by dissecting through it carefully without the syringotome. In all these cases we should examine carefully whether it is the muscle only which is producing the deformity, otherwise we shall be frustrated.

CLINICAL LECTURES ON MEDICINE,

Delivered at the Meath Hospital, Dublin,

Session 1837-8,

By Professor Graves.

INTRODUCTORY LECTURE.

To-day, gentlemen, we commence our labours for the winter session. I hope you will manifest a steady and sustained diligence in your hospital attendance, observe carefully the various forms of disease submitted to your inspection, and accurately note the symptoms, together with the effects of the remedial measures. As usual, I have allotted the cases at present under our management to the more advanced students; it is their duty to take charge of each, and write on a folio sheet of paper (which is pinned to a large card suspended over the patient's bed) its previous history and existing symptoms; thus recording its progress and treatment from day to day. In a former lecture, published in the Medical Gazette, I endeavoured to explain the advantages of this system; at present, therefore, without entering into its details, I shall content myself with remarking that we have had many years' experience of its beneficial effects in the Meath Hospital, where this, the German mode of clinical instruction, was introduced by myself in 1821; I must remind you, however, that even its utility is necessarily proportioned to the diligence of the student. There is no system capable of communicating information to the indolent; every man must depend chiefly on his own assiduity, and all the teacher can do is to facilitate the means of acquiring knowledge, and afford an example of punctuality and attention. I would seriously recommend every one who undertakes the management of cases, to set out with a fixed determination to persevere throughout the whole session. Few things give me more concern than to find young men, who have commenced with ardour, becoming by degrees less and less industrious, until their hospital attendance degenerates into an irksome task, imperfectly performed, and at last wholly neglected. One of the most valuable things which the student can acquire is, a habit of daily diligence. The knowledge requisite for the efficient

discharge of our professional duties is not to be acquired by sudden starts of intense application, or by the overwrought strivings of desultory exertion; it demands a daily and hourly attention, a steady, constant, and accurate course of observation, continued uninterruptedly for years.

I think students are very much misled as to the best mode of becoming good practitioners. This is an age of ambitious acquirement, and professional men seem to be ashamed unless they have the character of universal knowledge. Every body studies every thing, and the consequence is that few know any thing well. We live amidst the din of declamations in favour of general education; and are every where assailed by the ceaseless competition of those who vend cheap knowledge in the form of penny periodicals, lectures innumerable, and hosts of rival encyclopædias; but ours is not an age of calm unpretending acquirement, and severe precise study, without which the effort to become good physicians and surgeons must prove vain and fruitless. Can any thing be more embarrassing than the multitudinous array of studies presented to the young student, who comes to London or Dublin with the view of educating himself as a general practitioner? So many departments of knowledge are spread before him, and so numerous are the exhortations to study each with particular care, that he feels at a loss where to begin. The merits, advantages, and necessity of his own branch, are insisted on by the respective teachers, with all the force of impressive eloquence; and after running the round of introductory lectures, (an initiatory penance duly performed by all beginners,) he returns in the evening to his home puzzled and dispirited. He finds that it will be necessary for him to become an excellent botanist, an able and scientific chemist, and a profound anatomist; that he must have some knowledge of zoology, be well versed in comparative anatomy, know how to detect poisons with accuracy, and study the legislative enactments which bear on questions of medical jurisprudence. Physiology, materia medica, therapeutics, nosology, morbid anatomy, the principles and practice of surgery, medicine, and midwifery, claim, all and each, his especial attention; nay, many teachers insist upon the necessity of his becoming master of several languages—Greek, Latin, French, and German; while others assure him that he never can prosecute scientific medicine with success unless he studies physics as well as physic; some there are even who encourage him to cultivate mineralogy and geology, as if forsooth a knowledge of these sciences could teach the laws that regulate diseased action, or the indications which should govern the exhibition of remedies. In a lecture lately published by my friend Mr. Hayden, I find it remarked "that to keep pace with the modern race of intellect, we should get on a railroad of literature; mathematics, natural philosophy, the art of drawing, and above all, logic, will be indispensable." Dr. Elliotson would no doubt add metaphysics, animal magnetism, and phrenology, sciences he has cultivated with success, and taught with perspicuity! Dr. Latham, who has had sufficient courage to put forward his opinions on this subject, has demonstrated, with much truth and force, the injustice and folly of attempting to impose so many burthens on the minds of students, and has shewn clearly the bad consequences resulting from such a mode of proceeding. No profession requires a sounder preliminary education than ours, and in none ought education to be more studiously directed to promote the activity and development of the mental powers, especially those connected with the habit of observation as well as with the judgment and memory. The latter faculty should be cultivated from the earliest period, and the boy should be taught the chief anatomical names, as those of the different parts of the muscular, nervous, and vascular systems, which names he will of course find no difficulty in retaining when a man, and it will then only be necessary to learn the qualities of the things to which they belong. If, in addition to this, boys were taught the scientific names of the chief articles of the materia medica, and the technical terms and classifications of botany and chemistry, much trouble would be saved them in after life; and their memories, while in the state of greatest activity, would be much better employed than in attaining the rules and terms of syntax, prosody, mythology, and ancient geography. I would not recommend any one to commence the actual study of medicine and surgery until the age of nineteen. Before that period the mind is not sufficiently ripe for practical observation, nor sufficiently stored with that knowledge (only to be gained by the daily intercourse of life) which teaches us to estimate the effects of moral or physical causes on the human system, imparts to us the power of weighing conflicting evidence, and detecting the too frequently incorrect and erroneous statements of our patients. A certain knowledge of the world is indispensable to the physician; and it is only loss of time—yes, of precious time—to employ boys in trying to learn what can only be acquired by men. Those who attend hospitals at too early an age are very apt to acquire careless habits of observation;

all the interest which disease presents, when observed for the first time by matured minds, is lost to them, and all the attraction of novelty has ceased long before they possess that tact and experience which enable the adult to understand the meaning of symptoms, the progress and phases of morbid phenomena, and the effects of therapeutic agents.

It is then the duty of parents, guardians, teachers, and all who superintend the education of youth, to see that those who are destined for the medical profession should have their minds prepared and strengthened by diligent cultivation during early youth, not only by the attainment of extra professional knowledge suited to their means and opportunities, but also by instruction in those portions of anatomy, materia medica, botany, and chemistry, which may be readily comprehended at that age. Especial care should be taken to impart to them some knowledge of the physical qualities of medicinal substances. All this being done, when the student, arrived at maturer years, comes to grapple with the practical departments of his profession, he will find many difficulties easily surmounted, and at this period he should disengage himself from too devoted an attention to the accessory sciences. But he need not wholly detach himself from them; some one of them may be cultivated along with his more serious pursuits. He may devote one session to lectures on chemistry, another to those on botany, a third to physiology, and so on of the rest. But his main object must now be the acquisition of practical knowledge, and consequently the greater portion of his time and energies must be devoted to the clinical wards and dissecting-room of an hospital, to the study of the materia medica and pharmacy in an apothecary's shop, and to practical anatomy. Five or six years' attendance on an hospital will be little enough to qualify you to enter with propriety and confidence on the discharge of your professional duties. Bear in mind, gentlemen, that when you come to treat disease, you approach the bedside as physicians or surgeons, and not as chemists, botanists, or anatomists. This is the character in which you are to appear; and, to the acquisition of knowledge which will prepare you for the discharge of its duties, you ought to engage your chief attention.

Some of you, gentlemen, may think that it ill becomes a teacher to narrow the limits of your exertions, or circumscribe your pursuits. But let me be understood. What I wish to impress upon your attention is, that you ought to address yourselves mainly to the acquirement of what is really useful, and should store up chiefly what is most important and available. And in furtherance of this object I think it my duty to warn you against the well-meaning but injudicious representations of those who would turn you from the study of practical matters to the cultivation of their favourite sciences—sciences connected with and ancillary to medicine, but in which medical students are too often encouraged to engage with an ardour that indirectly, but certainly leads to a less zealous and efficient attention to more important matters. Take, for instance, two of the most popular of the adjunct sciences—two usually regarded as most intimately connected with the study of medicine, botany and chemistry. Both are extremely valuable in themselves, and a certain acquaintance with them is undoubtedly desirable; but to the student in medicine their utility has been greatly overrated. Botany is an extremely interesting and useful science; but I believe you might be very good practitioners without knowing the classes of Linnæus, or the families of Jussieu. To be sure, if you had the misfortune to practise in localities separated from the ordinary channels of commerce; if you were suddenly bereft of the numerous stores which maritime enterprise pours into the lap of medicine, and obliged, like the herbalists of old, to search the woods and fields for your materia medica, you would certainly be often at a loss, and might make some serious mistakes, unless you were adepts in practical botany. But this labour, fortunately for us and for every European practitioner, is quite unnecessary. A small capital will bring the vegetable productions of the most distant countries to your door; and any respectable druggist will for a trifling sum provide you with all the medical substances derived from plants, carefully selected and accurately prepared.

Those who boast the most loudly of their acquisitions in botany, and who lay most stress on its importance, know very well that to the physician it is of little or no practical value. Take one of the best of our English or Irish botanists, and see how meagre a knowledge he possesses after all, of many of the plants whose products are employed so largely every day in the treatment of disease. Transport him suddenly to the East or West Indies, to Africa, or South America, ask him to shew you the camphor or the cinnamon-tree, the cajuput, the croton, or the guaiacum,—I doubt very much whether he would be able to recognise logwood, or even ipecacuanha, growing in their natural situations. Again, there are a great many vegetable productions used every hour in medicine, of which it may be said, that no two botanists are agreed as to the precise

description of plant from which they are derived. There is no substance in such common use as gum Arabic, and yet, notwithstanding all that has been written on the subject, it is not clear from what particular plant it is derived. Nor do I think it necessary to know whether the gum we use in compounding a cough medicine comes from the Acacia vera or Acacia Arabica. In like manner, the plants which furnish arrow-root and many other substances in common use are by no means determined. How many disputes have there been with respect to the genus Cinchona? And what has been the result of all our investigations concerning the plant which produces this great remedy. Listen to what my late learned friend Andrew Duncan says, in the Supplement to the Dispensatory: "Notwithstanding that all the British colleges agree as to the botanical species of cinchona from which the commercial varieties of bark are derived, there is no satisfactory evidence that they are right; on the contrary it is almost certain that in regard to some of them they are wrong." How many years were columba and many other similar productions employed before scientific botanists knew any thing of their true history? In 1829 a paper was read, by Dr. Hancock, on the tree which yields the Angustura bark; it appears that even Bonpland and Humboldt had described the wrong tree, and consequently it has been called for many years a *Bonplandia;* whereas it belongs, it now appears, to another genus, named Galipea: it is not a majestic forest tree, eighty feet high, but a very humble plant, half tree half shrub. Dr. Hancock has also proved that the Smilax syphilitica of Wildenow is not the true sarsaparilla, which, consequently is produced by a plant not yet described; and at what conclusion does Dr. Hancock, who spent many years in South America, arrive? Why that the only criterion for knowing good sarsaparilla is its taste when chewed! In proof of the uncertainty which still prevails concerning the determination of species used in medicine, I have only to refer you to the admirable lectures of Mr. Pereira in the MEDICAL GAZETTE, and those of Dr. Sigmond published in the Lancet.

I do not wish to undervalue botany as a part of general education. Few sciences are more attractive, and few are more likely to become an object of enthusiastic pursuit; but it is the very enthusiasm it is so likely to generate that I wish to warn you against. Botany is an excellent exercise for the minds of youth: it gives habits of accuracy of observation, and tends to strengthen the memory. It leads to healthy occupation, and affords a source of innocent enjoyment. As productive of so much good, let it form a part of the early education of young persons in general; sure I am that its cultivation would give a healthier tone to both mind and body, than are to be obtained from many of the studies with which boys are now tortured in the schools. But let botany be restricted within its proper limits; and when once young men have seriously engaged in the acquirement of medical and surgical knowledge, let them not entertain the ambition of becoming accomplished botanists.

Speaking of botany I may observe that it is much to be regretted that the names of plants should undergo so many mutations. What was formerly called Stilozobium has successively become Dolichos and Mucuna; while Iceland moss has been changed from Lichen into Cetraria, and Secale cornutum into Acinula clavus. Uva ursi is now preceded by the prænomen Arctostaphyllos; and our old acquaintance jalap, deprived of its euphonious prefix Convolvulus, has degenerated into Ipomæa. All these changes are useless or injurious, and entail as a necessary consequence, that the young, the middle aged, and the advanced in life, use a different medical vocabulary. The materia medica, too, as now taught by scientific professors, presents a serious stumbling-block to students. Teachers do not confine themselves to shewing the different drugs and preparations, but they enter into very minute details of their natural history and characters; so that the student cannot learn the properties of bees' wax without being entangled in the difficulties of entomology, or the nature of isinglass without learning the hard names used in ichthyological classification.

The same observations apply to chemistry. It is a science fully as attractive as botany, and medical men are apt to spend too much time in its pursuit. Some very pertinent observations on this subject were made in the MEDICAL GAZETTE about five or six weeks ago, to which I refer you: they are conceived in a spirit of good sense and sound judgment, and you will find them well worthy of an attentive perusal. I grant it may appear very like a paradox to say, that you need not know much practical chemistry. But if you go to a reputable druggist with money in your pocket, he will furnish you with all the chemicals you have need of, excellent in their kind, and prepared with scrupulous exactness. You will get good calomel, good sulphate of quinine, and good hydriodate of potass. So far as chemicals are required for medicinal uses, you can have them all of the best description. But it will be said, that without

an accurate and extensive knowledge of chemistry you cannot prescribe. This is an assertion to which I cannot assent. A very limited knowledge indeed of chemistry will enable you to ascertain what substances are compatible with each other, and a small share of attention will prevent you from making any important mistakes. Besides, you are all aware that many of our best prescriptions contain incompatible ingredients; and that many compounds which would be sneered at by the mere chemist, as heterogeneous and absurd, prove decidedly efficacious in medicine. Granting that a certain degree of chemical knowledge is requisite, it does not follow that you should be scientific and accomplished chemists. It is not necessary that you should dive into all the arcana of the science, or have your memories loaded with atomic numbers, symbols, and equivalents.

Let me repeat with respect to chemistry what has been already observed concerning botany. Students should attend one or two courses of this science as preparatory to the study of medicine, and during the period of that study they may attend another, in order to keep up and improve their knowledge; but they should never allow chemistry to cause them to absent themselves from the hospital for a single day. Theoretical and philosophical call for your attention less than animal and pharmaceutical chemistry. But you are told that you may be called on to decide questions of medical jurisprudence, which demand an accurate knowledge of chemistry; that you will be required to test poisons, and detect them when accidentally or purposely mixed with food or drink. What should you do in such cases? Why, do not undertake any investigations of the kind, refuse to make them, refer them to those who are competent to the task. Where will you find a man engaged in the practice of physic fully capable of deciding such questions? What practising physician or surgeon is competent to enter at once upon an investigation of this nature? I have lectured some three or four years on medical jurisprudence, and have bestowed a good deal of attention on the subject, and yet if called on to decide a case of poisoning, I would refuse, and say I was incompetent to the task. What then is to be done under such circumstances? This is a matter of deep importance to society. It is of the utmost consequence that the wretch who poisons should not escape, and that the innocent should not suffer. It therefore behoves the Government to employ and pay persons capable of deciding such questions. Then, and not till then, will the task be duly performed, and the decisions be such as the public can look up to with respect and confidence.

So far with respect to a knowledge of chemistry as connected with the choice and prescription of medicines, or the analysis of poisons. As to any benefits derived from analytic chemistry in solving the problems of vital action, or elucidating the functions of the various organs in health and disease, they may be said to be few, unimportant, and inconclusive. Few and scanty, indeed, are the rays of light which chemistry has flung on the vital mysteries. I am not aware that it has revealed any of the master secrets of the organism, or detected the sources of those important aberrations from normal action which we are called on to study every day and every hour. Chemistry has failed most remarkably in revealing the arcana of life; and, notwithstanding all her boasted discoveries, we are still very little in advance of those who practised the healing art some centuries ago. Chemists, the ablest of their class, have bestowed the most minute and unwearied attention on the analysis of fibrin, and gelatin, and albumen; and what have they discovered? Simply this: that substances so apparently distinct in their vital relations, and so different, or even opposed, in their physical properties, are analogous compounds; that there is scarcely any difference in their elementary composition; and that their atomic constitution is nearly identical. How long have chemists laboured in attempting to detect the cause of animal heat? How many experiments have been made for the purpose of ascertaining the effect produced on the air by respiration? How many able and ingenious men have sought a chemical explanation of the difference in point of colour between arterial and venous blood? All these investigations have proved indirectly useful, but none of them have revealed the secrets sought; and we are still in profound ignorance of the powers which direct and modify the unceasing operations of the laboratory over which *life* presides—that mysterious influence which, like the Deity from whom it emanates, is invisible, inscrutable, incomprehensible.

So much for the light which chemistry has shed on the vital actions, and on the nature of organized compounds. There are, to be sure, one or two instances in which a rough examination of some organic products is necessary; as, for example, of the urine in certain cases of gout, gravel, and dropsy. But even in these instances a few simple rules will suffice, and sufficient information may be obtained by one moderately acquainted with chemistry. Generally speaking, the chemical knowledge requisite for the study of

disease is very limited; and those who are engaged in the practice of medicine are well aware, that cases demanding an accurate or extensive knowledge of chemistry are of extremely rare occurrence.

Let me now advert to a serious inconvenience which the chemists have imposed upon the medical world. They have, it appears, not only assumed to themselves the privilege of naming our medicines, but also of changing those names every five or six years. One of my ablest and most diligent pupils (Mr. Moore) has taken the trouble of drawing up a table, shewing the varions names which have been successively bestowed on each substance since the days of Lavoisier. I have the table here before me, and I find that most chemical substances have, in the space of fifty years, undergone at least five changes. Of course, as the march of chemistry progresses with accelerated speed, we may give our nomenclators credit for an increased tendency to revolutionize the chemical vocabulary, and conclude that they will change them five times within the next fifty years. In 1890, how will a man be able to recognise a substance whose name has undergone ten mutations? I am anxious to dwell on this defect, as being pregnant with perplexity and confusion. It would almost seem as if some enemy to our profession had invented the chemical nomenclature for the purpose of retarding the advance of practical medicine. Of what use will a Practice of Physic, published in 1800, be to the reader who peruses it in 1900? We all know how easily the mind of man is deterred by difficulties; how few there are who will submit to the labour of becoming genealogists in chemical names.

Many and able men foresaw this difficulty from the beginning, and raised their voices against the adoption of names meant to convey a knowledge of the chemical composition of mineral and saline medicines. Bostock and Murray have both written ably on this subject, and I regret much that their advice has not been duly weighed and considered. In practice, many serious inconveniences arise from this vacillating state of chemical nomenclature. Every apothecary knows that mistakes occur from day to day, owing to the shifting character of chemical nomenclature, and I think it is time for us to bestir ourselves, and make a stand against the useless and dangerous innovations of the chemists. We should come forward boldly, and declare that we will not be made the slaves of names. Compare our last Pharmacopœia with its immediate or penultimate predecessor, and the difficulties a physician has to encounter will be obvious. Are we to be perpetually called on to learn new names? Must an artificial method of forgetting become even more necessary than a *memoria technica?* Must my prescriptions of 1818 be translated into a new language, if I wish to employ them now? It is time, then, to protest seriously against having our memories loaded with a polyglot vocabulary, and our ideas confused by a perpetual alteration of names. I do therefore assert boldly, that much benefit would accrue from reverting to the old system, and employing names which have no direct reference to the substances. I do not see any reason why we should not continue to call calomel, calomel; nor do I see any advantage in giving it any of the numerous modern appellations supposed to indicate its chemical constitution. I am glad to find that this view of the subject has the able support of Dr. Sigmond. He quotes Professor Brande as being of opinion that "it is very inconvenient to alter pharmaceutical terms according to the changes in chemical nomenclature; and as physicians in practice have not come to accord in this particular, I can see no objection to the term *calomel* for one substance, and *corrosive sublimate* for the other, pharmaceutically speaking." It is a subject of deep regret, adds Dr. Sigmond, that the attempt should be made, because it never can be successful; for some chemists will call calomel *protochloride*, others *chloride*, and some denominate sublimate *perchloride*, others *deutochloride*, and others again, as does the Royal College of Physicians, *bichloride*.

What is the use of a name? To designate a thing—to point out any substance, so that when we call for it we may get *it*, and nothing else. This is all that is necessary. When you tax a name beyond this, you exceed the limits of ordinary language, and demand too much. The old names for our medicines are not inferior, in this respect, to the modern ones imposed on us by chemists. Tartar emetic is a good and significant name, and yet I perceive it has been altered several times before, and again in the last edition of the London Pharmacopœia. Why is it that the preparation of bismuth used in pyrosis has been three times changed in my own memory? What alterations have not the carbonates of iron and of alkalies undergone? As for Fowler's solution, corrosive sublimate, Mindererus's spirit, and Æthiop's mineral (all good standard names), they are now nearly extinct, and have been superseded by a new generation likely to prove as unstable as their predecessors. Many other substances have undergone the same fate. Where will the revolution stop? Indeed we seem, at the present moment, as far removed as ever

from the establishment of a stable system of chemical names. The progress of investigation discloses almost daily new views of the mutual relations between the elements constituting compound bodies; the atoms associated together are divided and subdivided into new groups, and, consequently, the symbolical representation of every compound assumes a new configuration, and is subdivided by brackets, altering their places with each successive advance of science. The labours of Bornsdorff and Hare already threaten the nomenclature of Berzelius, and the *chlorure platinosopotassique* of the latter, now considered as a compound of chloroplatinous acid and the chlorobase of potassium, must then be called chloroplatinite of potassium.

If chemical names are still to be formed with the view of expressing chemical composition, there is no end to the complication and length at which they must arrive. If they express composition, it is worse than useless, were they to do so incompletely. A name whose structure designates the nature of the thing named must, in chemistry, to be serviceable, designate it with perfect accuracy. Professor Kane has analyzed, in one of his very able papers, a crystalline substance obtained by boiling the white ammonia subnitrate of mercury with solution of ammonia. Suppose this substance to be introduced into the Pharmacopœia, how can it be named in conformity with the principle which attempts to make each name expressive of the composition of the matter named? its composition is stated by Professor Kane to be—one atom of nitrate of the oxide of mercury, *plus* two atoms of oxide of mercury, *plus* one atom amide of mercury, *plus* two atoms of the nitrate of the oxide of ammonium, *plus* two atoms of the oxide of hydrogen. Even if the ingenuity of chemists had surmounted the difficulty of inventing a name capable of expressing the nature, number, and mode of aggregation of the above elementary atoms, is it probable that a name, so gifted, would be of a length manageable by either the tongue or the memory? Is it certain that future experiments may not unfold new views concerning the arrangement of the constituent atoms, and thus nullify the old, by requiring the adoption of a new designation?

I would not be understood here as wishing to depreciate any department of human knowledge. Far be it from me. Besides, the attempt would be useless. But I am anxious that you should concentrate all your energies on the proper objects of medical pursuit, and devote the largest share of your attention to those acquirements which will render you good practitioners. I have seen students led astray by false notions, wasting half of the time which should be spent in hospital, and by the sick bed, in wandering through the fields on botanical excursions, or working in the laboratory, engaged in the solution of some unimportant problem. Now this is not what will teach them to relieve suffering and cure disease. When I look round me, and behold so many young gentlemen entering upon an honourable and important profession, I feel that my responsibility is great. I consider you all as instruments of good or evil, and cannot help being conscious that I should be guilty of a great crime, did I not use every means in my power to render you able and efficient practitioners. The teacher of clinical medicine, gentlemen, occupies in every nation a post of heavy responsibility. But when he happens to preside over the medical education of those who resort to the wards of a metropolitan hospital, when the metropolis is a British one, and the hospital destined to send forth annually practitioners to every quarter of the globe—to North and South America, to New Holland, to the Cape of Good Hope, to the East and West Indies, and the countless isles which, in either hemisphere, are visited by the British flag, then indeed does that teacher become himself an instrument of good or evil, to an extent which it is fearful to contemplate.

He who gives instruction to a clinical class in Berlin, Stockholm, Vienna, or Paris, has much to answer for, if he discharge not his duties with zeal and diligence. Yet if he fails to make his pupils good practitioners, their errors, however deplorable, are circumscribed within comparatively narrow bounds, and limited in a great degree to their own countrymen. But the British teacher sits in the centre of a circle far wider than Sweden or Prussia, or Austria or France; his pupils are to be met with practising in every climate, exercising their art in almost every habitable region of the globe, and dispensing the blessings of health to all races of mankind;—to the hardy white settlers of Canada, the aboriginal red skins of North America, the negroes of Jamaica, the hottentots and caffres of Africa, and the countless tribes of Hindostan.

In truth, gentlemen, the British teacher of practical medicine exercises an influence without parallel in importance and extent, and his opportunities of benefiting or injuring his fellow men are incalculably great. If he neglects his duty, if he teaches erroneously, his negligence and his errors in practice are multiplied indefinitely, by means of those whom he ought to have better instructed; the scene of his guilt—for it deserves no better name—becomes fearfully enlarged, for there is no

country so remote that it may not contribute victims to the incapacity of his pupils. But if, on the contrary, he works with zeal and diligence; if he labours conscientiously and perseveringly in performing the important task he has undertaken, a compensation awaits him, to which scarcely any member of any profession can attain. Can any reward exceed in value the reflection that he has assisted, materially assisted, in imparting practical knowledge to multitudes of enterprising young men, who, year after year, leave our hospitals to engage in the sacred duties of the medical profession, throughout the world? Is it not a high privilege to be enabled to combat death, and conquer disease, as it were by proxy in so many different localities? Can man enjoy a purer, prouder, more gratifying reflection? When I hear that a favourite pupil, who has acquired a solid stock of practical knowledge in this hospital, has settled in any particular town or district, I cannot help feeling, on the part of my colleagues and myself, that we have been the humble means of conferring a blessing on the people entrusted to his care; and I cannot refrain from congratulating myself upon holding a situation which multiplies a thousand fold our efforts to be useful, and enables us to stretch forth our hands to heal men of all nations and languages. The hero and the despot may extend a sovereignty over distant regions—may exert an unlimited control over millions of vassals—may dispense honours and rewards, or inflict punishment and death;—they may, like Alexander, grieve at the narrow limits of a conquered world, and sigh for other scenes of glory;—but they cannot chase away pain; they cannot bid the burning thirst to cease, or give back repose to the sleepless; they cannot impart feeling or motion to the paralysed, or sight to the blind; and above all, they cannot imitate that almost godlike function of the healing art, by which man is enabled to recal to his fellow-man reason long banished, and restore to society the hapless victim of insanity.

Gentlemen, the profession we have embraced is the noblest that can engage the mind of man, when diligently cultivated and conscientiously practised; but it requires great and persevering industry to enable the student to master all the difficulties that beset his path. Feeling this strongly, I have trespassed perhaps too long on your attention; but I thought it my duty to lay before you, as fully as I could, those views which I deemed best calculated for your adoption in the acquirement of practical knowledge.

NATURE AND TREATMENT OF DELIRIUM.

To the Editor of the Medical Gazette.

Sir,

Should you consider the following observations worthy of publication in your Gazette, they are very much at your disposal.

Your obedient servant,

M. B. Gallway,
Assistant-Surgeon Royal Artillery,
Woolwich.

September 20, 1838.

The subject of delirium is generally looked upon by the practical physician as one of the most obscure in the chain of morbid phenomena he has to deal with; whilst the frequency of its occurrence under various diseased conditions of the system renders the affection not a little familiar to his eye.

My object in approaching so acknowledged a *terra incognita* is not, I regret to say, that I have any fresh contribution towards its elucidation to bring into the field, but rather to awaken a more lively inquiry amongst the profession as to its real nature and causes.

My attention has been much directed of late to the question before us, from the very varied and opposite conditions of the system under which I have noticed its presence, as well as from the embarrassing feature it has proved in a large number of fevers of the adynamic type.

That well-established law in the economy of nature, which inseparably connects a change of function with diseased action in an organ, sufficiently explains the occurrence of delirium, when the cerebrum or its meninges may be the seat of inflammation, because the discharge of the intellectual faculties being the primary and most important function of the brain, nature would not be acting up to her own ordinances, were not the peculiar office of this organ to be interrupted, when invaded by disease. Having lost the power of performing its natural function, the brain becomes "incapable of any exertion, and is carried along with whatever idea presents itself." I need not, therefore, bring under further review the delirium of phrenitis, but proceed at once to the objects I have had mainly before me, viz., that of noticing the delirium which

occurs under different states of the system, where, though strongly manifested during life, the brain is found organically healthy after death.

Let me, *imprimis*, bring forward the remarkable delirium that sets in early in the course of some fevers, characterized, from their commencement, by low or adynamic symptoms.

Delirium, in such cases, is often one of the earliest attendant symptoms. This may or may not be ushered in by apparent signs of fulness in the head.

The cautious practitioner will perhaps be here induced to bleed, either generally or locally; still "feeling his way" with his patient's pulse in his hand. He does so, perhaps, from an acknowledged doubt in his own mind as to the state of the brain at the moment; lulling himself the while into the conviction that such a measure at least will be harmless—perhaps a safety-valve against excessive cerebral action.

But what will the "routine doctor" do in such a case? What are *his* views as to the causes and nature of the delirium? Alas! I am afraid it is no exaggerated picture when I affirm, he will too often view this condition as one of inflammation, or, at least, of extreme congestion; and, determined to "knock down the pulse at a blow," abstract a large quantity of blood from the arm; to say nothing of the application of various instruments of professional torture to the head, in the shape of blisters, cupping-glasses, &c.

The practitioner who applies such a remedy to the disease before him, and fails to husband his patient's strength for the long and protracted struggle that may await him, too soon discovers the fatal error he has been enticed into by his own ignorance, and uselessly now exclaims, "Would I had not bled the man!"—discovers, I say, that he has indeed dealt his patient a knock-down blow, from which the chances are that he is effectually disabled from rising again.

A few days, or even a few hours, may witness this patient lapsing into a state of fatal prostration; attendant upon which change will be an increase in the delirium—not in its degree, but permanency—if it has not already passed into confirmed coma.

The only confirmation of his views of a diseased brain which the practitioner I have here spoken of may find in this case, on a post-mortem inspection, will probably be in a blanched state of the organ throughout, or (what may be resolved into much the same condition) isolated spots of congestion, the result of the loss of tone in the venous system of the head; and the latter the result probably of his own treatment—

"Exsuperat magis—ægrescitque medendo."

On what, then, does this condition of the brain depend, if neither on inflammation nor congestion?

This is the question I would urge most anxiously on the profession; because on its solution rests so entirely the fate of a large number of fever patients at the present day. I cannot satisfy my own mind with any explanation sufficiently rational or plausible, whereby I could directly point out the condition which gives rise to it: I will not say the condition of the head itself, because I am satisfied of this much, that there is no primary action within itself giving rise to it, believing its function to be interrupted by other and more distant or general causes.

The imperfect transmission of the blood through the lungs, and its consequently mal-oxygenated and deleterious quality (the result either of prostration of the heart's action, or determination to the pulmonic system), may perhaps so stifle and oppress the brain, as to render that organ incapable any longer of exercising its natural office, and a state of low delirium may be the consequence. Nay, congestion, I will allow, may even, from such a cause, take place within the head. Congestion! that fashionable and convenient veil to conceal our real ignorance of some of the morbid states of the cerebrum. But is the lancet the remedy to relieve it? Because a mechanical obstacle in the lungs opposes the free circulation of blood in the head—because it stagnates there, will abstraction of its momentum enable it more readily to pass on? It is not from an excess of blood that stagnation takes place, but from a barrier to its progress in a distant quarter. Supposing, as I suggested before, the delirium to depend on the destructive quality of the blood on the brain itself, would a reasonable man expect to improve that vicious quality by rendering the amount of its momentum less? Assuredly not. As well might a landowner hope to destroy a

malaria on his property, by *partially* draining the stagnant marshes that gave rise to it: his efforts would not be less ineffectual, so long as the quality of what remained was unaltered, and the current unrestored.

It is not improbable, I think, that this peculiar form of delirium may depend, in some measure, on the defective circulation of the blood in the brain depriving that organ of the degree of stimulation necessary for the discharge of its function: just as we see vertigo and a failing in the powers of the brain produced in persons who have deteriorated the quality of their blood by those excesses, which, at the same time, exhaust their nervous power,—a state of the cerebrum which Mr. Travers describes as "probably arising from an imperfect injection of the medullary substance."

I am much disposed to attribute the form of delirium now under review conjointly to the loss of tone in the vessels of the brain itself (whereby the organ is deprived of its natural stimulus), and to the difficulty of the blood's transit through the pulmonic system, together with its non-purification in that quarter. It may be contended, however, that in relation to the pulmonic circulation, I am alluding more to the remote than proximate cause of the phenomenon in question. Be it so; I am not anxious to hold out on so nice a point of disquisition; but I am altogether at issue with those who contend for a primary and positive action in the brain itself being the *rationale* of the matter. Here lies the key-stone of the fabric I would build up on secure ground; and hereon, also, I deem the importance of the question to hinge.

It is really trifling with the serious subject before us, to make even an allusion to the question of inflammation here. But knowing that there are individuals who inseparably associate the symptom we are speaking of with inflammatory action, I beg to impress the importance of the subject with increased emphasis upon them, and trust they may yet learn to reflect on the chain of evidence that stands forth against their false doctrines.

Bateman, indeed, I am aware, remarks, that subacute cerebral inflammation sometimes supervenes under circumstances of great general debility; when the nature of the one affection absolutely contra-indicates the treatment which the nature of the other as decidedly requires. But such a statement does not impinge upon the peculiar kind of cerebral affection I have spoken of, or invalidate the deduction I before made.

Dr. Philip Wilson, in his excellent essay on the Nature of Fever, has on the present question these pertinent remarks: — "Delirium much less frequently arises from excess of excitement than from debility; and in the first paroxysm of fever the excitement is seldom such as to produce it.

"The symptoms of excitement are few and simple; those of debility numerous and complicated: one cause of which is, that excessive excitement never continues long; debility, on the contrary, is of long continuance; during its influence there is time for various changes to take place."

Let me adduce in this place the remarkable words of an author who has dealt copiously and most ably with the subject-matter of our present question; I allude to Van Rotterdam's prize essay on Blood-letting in Fevers, read before the Academical Society of Paris in 1811:—

"It is delirium from debility of the cerebral organs that is most frequently observed at the commencement of, and in the course of nervous, putrido-nervous, ataxic, and other fevers of that kind; it is almost always of a pacific character, and is known by other symptoms of atony, such as lassitude, slight headache, vertigo, loss of memory, indifference, trembling of the limbs, weakness of the pulse, paleness of the countenance, limpid urine, &c. If in this case there is otherwise no symptom of irritation, all blood-letting is absolutely hurtful."

Tissot thought the delirium of fever so generally sympathetic, that he says, "Of twenty cases of delirium, eighteen have their source in the abdominal viscera."

And Galen teaches that the delirium which supervenes in the height of fevers is not always owing to the direct affection of the brain, but most frequently to its sympathetic connexion with the primæ viæ,—an opinion which we again find in the doctrine of Boerhaave (*De Morb. Nerv.* p. 360, *et seq.*)

Dr. Armstrong, in his Treatise on Fever, says, "Delirium is one of the most ordinary symptoms of typhus

under all its modifications; but, singly considered, it is by no means conclusive as to the real state of the brain or its appendages." In another place we find him stating on the same subject, "Delirium is a common attendant on typhus at all times, but particularly when any part of the thorax is attacked with inflammation, which, impeding the transmission of the blood through the lungs, tends to prevent its free return by the veins from the brain. But it is not improbable that the delirium may also, in part, depend on those inexplicable sympathies which exist in the nervous system. Certain it is, that I have met with some cases accompanied by great intellectual derangement from the beginning, in which the minutest dissection after death could detect no vestige of cerebral disease, though in all an effusion of serous fluid was found in the pericardium, with some appearance of inflammation on its surface, and on that part of the pleura which covers the diaphragm."

On this last pseudo-morbid appearance I may quote the words of Dr. Marshall Hall, from his treatise on the Morbid Effects of Loss of Blood:—

"There is, in extreme cases of exhaustion, a general tendency to serous effusion, both into the internal cavities and into the cellular membrane. This effect of the loss of blood has been very long remarked by medical writers."

"Dissection shews that the drowsiness which we sometimes meet with in putrid or nervous fevers is not always owing to compression of the brain, but that it proceeds frequently from its debility, or that it is only sympathetic; and if we consider attentively that it is not uncommon to find the brain without any alteration after soporose affections (although, however, the contrary often happens); that very frequently even anatomists of the first order have not been able to discover by dissection the cause of fatal apoplexy in the brain; that, besides, we often observe, independent of fevers, soporose diseases caused by poisons, or excesses in venery, in wine, &c.—affections which are cured by emetics or purgatives; if, I say, we consider all these facts, we shall be readily convinced that, in fevers, soporose affections may arise either from simple debility of the cerebral organ, or from its sympathy with the primæ viæ; and we shall no longer be surprised at seeing them treated by tonics and evacuants." Such are the words, again, of Van Rotterdam, in confirmation of the position I have assumed.

Cullen considered the delirium as arising either from simply atony of the brain, or from a less degree of debility, accompanied with determination to that viscus; and Dr. Burne, in his treatise on the Adynamic Fever, considers the whole affection of the head in that disease of trifling moment—a mere will-o'-the-wisp—a sympathetic affection.

[To be continued.]

CASE OF ENCYSTED TUMOR,

CONTAINING SEROUS FLUID, OCCURRING IN THE BRAIN,

Mistaken for Abdominal Disease.

(Communicated by Sir James M'Grigor, Bart.)

PRIVATE Henry M'Loughlin, 59th regiment, æt. 34, admitted 10th June, 1838, labouring under hepatitis chronica; a Scotch labourer of sanguine temperament and thick-set frame, complaining of pain over region of liver, aggravated on pressure; headache; pulse 90, strong; tongue covered with a white fur; and bowels regular. Considers the symptoms a renewal of an old complaint, contracted three years ago at Gibraltar.

Mittatur sanguis ad ℥xx. ℞ Pil. Cal. c. Colocynth, ij. nocte. Diet, spoon.

June 11th.—Dyspnœa, with tightness across the chest; right side looks large.

Hab. Sulph. Magnes. ℥j. statim.

12th.—Pain continues.

Applicat. Emplast. Canthar. lateri dextro. Sumat. Mistura Salin. Antim. ℥j. quartis horis.

13th.—Complains of pain in the head; skin sallow.

℞ Pil. Hydrarg. gr. v. bis indies. Cont. Mist. Salin.

14th.—Tongue clean, headache less, and bowels regular.

Omit Pil. Hydr. Diet, half.

17th.—Convalescent.

18th.—Discharged.

July 4th.—Re-admitted, complaining of sickness and vomiting, headache, and "blindness," when the headache comes on, which continues some minutes.

℞ Pulv. Ipecac. gr. xv. Antim. Tart.

gr. ii. Aquæ, ʒii. M. Statim sumend. Diet, spoon.

5th.—Headache continues, and affects him *round* the head; appetite bad, and tongue foul.

℞ Pulv. Rhei, ʒiss. Sulph. Magnes. ʒiss. Aqua, ʒviii. M. ʒj. bis indies.

7th.—Better.

9th.—Rapidly convalescent.

11th.—Discharged.

July 18th. — Re-admitted, with a throbbing pain in the temples, and other symptoms of his old complaint. [On this occasion the trial of putting a small blister on each temple was made.] Diet, spoon.

22nd.—Diet, low.

23rd.—This man's behaviour in hospital is unaccountably obstinate and singular. Exclusive of the languor and a certain sleepiness attendant on his complaint, which is a complication of chronic hepatitis and dyspepsia, his manner is of the most morose and sullen character; scarcely answers a question.

Continuatur Mistura.

24th.—His health appears good; eats his meals, goes about, and complains of no pain. Diet, half. Discharged.

30th.—Re-admitted, after having been sick at stomach last night. Makes no further complaint than that his head aches a little. Tongue covered with a thick white fur; pulse 75; bowels costive. Has a trembling, with apparent lameness of right side.

Sum. Pulv. Purg. statim.

6 P.M.—Is taken with some shiverings and insensibility; pulse 110, full; face flushed; pupils dilated; and breathing stertorous.

Mittatur sanguis ad ʒx. ab arteriâ temporali.

℞ Ol. Tiglii (Croton) ♏iss. statim; et habeat enema.

After bleeding, he breathed more easily, and raised his hands towards his head; but soon he began to get worse; teeth became clenched, and breathing convulsive; and at 10 P.M. he expired, the medicines not having operated.

This case is thus given in detail from the case-book, in order to present it in as connected a form as possible, and permit the observation of those symptoms which throughout indicated cerebral disease, but which during treatment were mistaken for symptoms of disease of the abdominal viscera, and subsequently became the objects of so much mystery. The naturally sullen and obstinate disposition of the man, increased when suspected of scheming, for which he had a notorious celebrity in the regiment, rendered also the elucidation of his case more difficult. It will be seen, from the morbid appearances, that the nausea and vomiting were evidently sympathetic affections of disease in the brain; the occasional disease of vision and the moroseness and stupidity that characterized his habits were conspicuous symptoms of cerebral disease also. The symptoms with which he was admitted on the 30th July indicate an attack of partial hemiplegia, and that occurring on the side opposite to the seat of disease in the brain.

Post-mortem examination.—External appearances. Body muscular and fat; testicles ecchymosed, and limbs rigid. Head.—Veins and meninges turgid with blood. Several small round masses, which were attached to the brain, and of the like substance, protruded through the arachnoid membrane. At the anterior part of the left hemisphere of the brain was a cyst containing at least six ounces of limpid serum, with a layer of thin jelly covering its walls, which were thinnest at its anterior part, but had no opening. The lateral ventricles contained very little fluid, neither was the plexus choroides particularly vascular, nor was there any other morbid appearance. Thorax.—Heart covered with a considerable quantity of fat, and the right auricle greatly enlarged and thinned in its walls; valves not altered. Lungs œdematous, and considerably gorged with blood; adhesions at the summit of right lung. Abdomen.—Liver enlarged, and weighing $3\frac{3}{4}$ lbs. and fatty, staining paper very thickly with oil when heated; two large cicatrices of former abscesses on its surface. No unusual appearance in the gall-bladder. The rest of the viscera were healthy, but distended with fæces and air.

The cyst was a transparent jelly-like membrane, pretty firm, and about as thick as the cornea, easily detached. On immersion in spirits it became contracted and more opaque.

FREDERIC ROBERTS,
Assistant-Surgeon, 59th Regiment.

Mullingar Barracks,
Aug. 6th, 1838.

MEDICAL GAZETTE.

Saturday, October 6, 1838.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

THE MANAGEMENT OF MADHOUSES.

A USEFUL, though somewhat angry, treatise on this subject has lately been published by a physician in the North of England*; and though we venture to hope that matters are not managed quite so ill as he represents them to be, even in the most celebrated asylums, still, those who recollect what accumulated horrors were formerly produced by neglect and the want of supervision in many mad-houses, will not be sorry to see an active critic come into the field, though he sometimes seems to dip his pen in gall rather than in ink.

Dr. Crowther says, in his introduction, that he is aware that by submitting his pamphlet to some hacknied writer, he "might very materially have improved the style and euphony." He fears, however, that by this method he might have lost in sense what he would have gained in sound. Now, it is our opinion that if he had hired his hack from some first-rate literary stable, he might have got much more than this out of him, and that a well-taught mercenary would have improved the sense as well as the prosody. For instance, at the beginning of the next chapter, where the author discusses the supposed advantages of the division of labour in medicine, he says that "the prejudice on this subject is so strong, and the explanation so complicated, that I despair of conveying conviction to the unlettered mind." But why "unlettered mind?" Two lines before, Dr. Crowther wants to make the subject intelligible to well-educated men; and in the previous chapter he says he has printed his observations in order to communicate them "to several influential individuals, who possess the power and the will to improve our public institutions." Surely neither the influential individuals nor the well-educated men have unlettered minds. We agree with him entirely, and we suppose that every one does, when he asserts that the mad-doctor ought to have had a complete medical education. But after this education is finished, and the physician has devoted himself to the treatment of the insane, we fear that it will not always be in his power, however much it may be his wish, to keep up any considerable quantity of general practice. This, however, will chiefly depend on the size of the town where he lives. In London, where practice has so great a tendency to subdivide itself, he will commonly find that the great mass of ordinary patients will select the ordinary physician, and that he must be content, as he well may be, with the golden rewards appropriated to his particular branch of the profession. He will have no reason to be discontented with the appropriation clause. In small towns, we apprehend, this strict division can rarely, if ever, occur; and we therefore rather think that Dr. Crowther is censuring the erroneous theory concerning the subdivision of medical labour which he conceives to prevail in the breast of certain laymen, than any great practical evil existing in the profession.

An interesting point discussed by Dr. Crowther is, whether the spread of dysentery in our lunatic asylums is a necessary evil, or the result of negligence, where, of course, he inclines to the latter alternative. In the Hanwell Asylum

* Observations on the Management of Mad-Houses, illustrated by Occurrences in the West Riding and Middlesex Asylums. By Caleb Crowther, M.D. formerly senior physician to the West Riding Pauper Lunatic Asylum. London, 1838.

he says that seventy-five patients died of diarrhœa and dysentery in five years; while in the pauper Lunatic Asylum of the West Riding of Yorkshire, thirteen patients died of dysentery, besides three other persons*. Dr. Crowther thinks, with some probability, that the disease spreads by infection, owing to the bad state of the water-closets, and the neglect of due superintendence. In the printed rules of the Hanwell Asylum, it is stated "that the keepers are expected also to examine the stools and urine of the patients, so as to be able to report their state, and every particular concerning them." Dr. Crowther, however, is quite sure that this rule has not been acted upon, otherwise so many cases of dysentery would not have occurred, as the director would have ordered any patient attacked with the disease to be separated from the rest, and thus stopped the infection betimes. We do not know whether our readers will be convinced by this syllogism, but perhaps they will place more confidence in what he says about his Yorkshire asylum, for *Pluris est testis oculatus unus, quam auriti decem; i. e.* one fault seen at Wakefield is of more importance than ten discovered at Hanwell by the help of books and reports. He says then, that "so little attention is paid to prevent the spread of this disease at Wakefield, that even a patient in a double-bedded room, when seized with it, is not sent to the infirmary, nor is his companion in the adjacent bed sent away. The infirmary is certainly perched in the most inconvenient situation possible, at the summit of the building. Since this remark was written, I hear that one dysenteric patient has been sent into the infirmary."

But though he fears, and probably with reason, the spread of dysentery by infection, he has no sympathy with those who dread the contagion of Asiatic cholera. When the disease prevailed in that neighbourhood, the Visiting Justices issued an order that no one should be received from districts where that disease existed. But "this order manifested the great ignorance of Justices." We suspect that it is not a *very* easy thing to please Caleb Crowther. Nevertheless, his evidence is valuable, and, if substantiated in all points, it is of the last importance. Thus he asserts that in large asylums the office of removing the stools and urine is performed by the insane patients, who are incapable of giving a correct account of them to the medical attendant; and he mentions a case which occurred when he was Physician to the West Riding Asylum, where a patient was presented to him for the first time a day or two before his death, "who, from the intestinal disorganization apparent on the autopsy, must have been affected with the disease for some weeks."

In the chapter on inquests held at asylums, there are some severe observations; but, taking the facts for granted, there can be no doubt of their justice. In 1833, a gentleman of fortune, having a strong suicidal tendency, was admitted into the West Riding establishment. Two or three days afterwards he destroyed himself with a razor that he found in the ward in which he was confined; or, as it is afterwards stated, which he found in the lodging-room of an assistant-keeper. The carelessness through which this gentleman was allowed to possess himself of a razor, the absence of the director from the asylum, and the impropriety of admitting a man of fortune into an establishment intended only for the poor, are all commented upon by the author with suffi-

* It is not stated in this chapter over how many years these sixteen deaths were spread; a "hacknied writer" of ordinary *vous* would have nudged the author here, and asked for dates. From a table in the 25th chapter it appears that the period was five years.

cient rigour. The last item of accusation, however, seems capable of being interpreted into a decided compliment to the asylum. Is it not possible that the relations may have sent the patient rather with a view to expedite the cure than from the sordid motive of economy? It seems that formerly an inquest was held at this asylum on the death of every patient; this practice has been given up, Dr. Crowther approving. When we consider, however, how very frequently it must happen, when an insane person dies, that his friends suspect his death to have been caused by violence, inflicted either by himself or by a fellow-sufferer, we must confess that we are not quite sure of the policy of the change. In other words, the law supposes inquests to be held in every case of suspicious death: and is not every death of a lunatic suspicious?

"Ought public lunatic asylums to be placed under the care of one medical man?" Dr. Crowther answers no; and is probably in the right, though the subject is environed with difficulties. Of these, however, he notices, as is usual with him, only one half, namely, those that belong to the scheme which he opposes; but those that belong to his own plan are worth noticing too. If an establishment is under the care of one man only, he can do, and say, and publish, what he pleases; and if the visitors are mere laymen, it will be extremely difficult to detect even material mismanagement. If, again, we suppose the resident medical officer, like the apothecary of an ordinary hospital, to act entirely under the guidance of a visiting physician, the patients will lose the advantage they might derive from the control of a superior kind of superintendent, who, in common phrase, would be unwilling to play second fiddle to another man. Dr. Crowther's plan to make all this smooth is not a very commendable one; he gravely proposes, that "all the superior officers ought, on their appointment, to engage to communicate to the governors every impropriety of conduct which falls under their observation; and for this purpose the physicians, surgeons, apothecary, clerk, director, and matron, being all separate and independent appointments, ought to be examined by the governors, separately, several times a year."

Now, really, if we read this statute aright, it seems to establish an asylum staff, consisting of mere informers—Byers multiplied by 8. To make the system perfect, each of these lynx-eyed officers should be furnished quarterly with a small black book, to be filled, as best it might, with a list of his neighbours' peccadilloes—with rewards proportioned to the gravity of the offences discovered. No! no! other systems may be indifferently bad, but this would be intolerable.

Another question is, how ought the medical directors of asylums to be elected; which, of course, might be included in the more general problem of, how ought medical officers to any public institution to be elected? Manage it how you will, objections not trivial, nor merely plausible, but sound and solid, may be made to every method. Whether a physician be elected by county magistrates, or a large body of subscribers, or a select council of three or four, or by a *concours*, or on the faith of testimonials, or by any other method that ingenuity may devise, there will always be abundance of room for partiality or mistake. A man may be elected because his father was before him, or because he is a distant relation of Lord Hammersmith, or because he is a skilful electioneerer, or a Muggletonian, or a good diner-out, or for a hundred other reasons independent of his medical merit. Dr. Crowther, however, has a scheme to avoid all causes of error, and get the

best man elected. Let medical officers be appointed, he says, by a Minister of Health, assisted by a medical board. We do not positively say that this plan is indefensible, but the objections are obvious enough. One is, that it tends to an injurious centralization; the men of the West Riding, or any other, would be unable to elect a doctor to their own asylum, and must await the fiat of a London board. This referring every thing to the metropolis, as if the country population of England were unable to transact the common business of life, has been a very unpopular part of the New Poor-law, and most deservedly so. Another objection is, that the board, if inaccessible to canvassing, must necessarily be guided in their choice by the dry answers of the candidates to the examination questions; whereas, in the popular election, their personal or moral fitness will have some influence on the body of voters. With elections by magistrates, Dr. Crowther is, of course, most deeply dissatisfied. The magistrates, supposing them to be without partiality or prejudice, can only judge, he says, by certificates, "and we know very well that the most impudent and boasting men, however ignorant they may be, will often produce the greatest number of good certificates."

When Dr. and Mrs. Ellis resigned their situations at Wakefield, the magistrates advertised for their successors in the office of Director and Matron (without stating that they meant to select man and wife), and about seventy candidates came from all parts of the British isles. The magistrates now grew pale at the thoughts of examining a mountain of testimonials, and were at a loss how to proceed. In order, therefore, to cut the matter short, the justices, says the splenetic Crowther, "came to the worst possible decision, which was, to elect a married pair to fill the vacant offices."

We trust that Dr. Crowther will forgive us if we confess that we should have been inclined to "come to the worst possible decision," likewise, by electing a married couple; but on the other hand we own that the probability of such a decision ought to have been intimated in the advertisement.

We will continue this subject on an early occasion.

RESUSCITATION OF MESMERISM.

We thought that mesmerism had received its death-blow, and was defunct; but we understand that since Dr. Elliotson's return to town the Mesdames O'Key have made their appearance at University College Hospital, and that the learned Professor declares his faith in the *science* to be quite unimpaired. Now, with Dr. Elliotson's opinions as a private individual we have nothing to do; but if it be intended (as our informant surmises) to resume the exhibitions of these accomplished performers either at the College or at the Hospital, we think the other medical men owe it to themselves and to their school to take immediate steps for putting an end to all such mummeries.

WESTMINSTER HOSPITAL.

CLINICAL LECTURE ON FRACTURES OF THE FEMUR,

By Mr. Guthrie;

With Remarks by the Reporter.

Caries of Os Femoris—Gun-shot Injuries of the Thigh—Various kinds of Fracture Bed.

John Ayrton, æt. 26, a sailor, discharged wounded from the steam-boat employed by the Spanish Christino government to blockade that portion of the Basque Coast in possession of the Carlists, was admitted under the care of Mr. Guthrie, early in the spring. He was struck by a musket-ball on the right thigh, a few inches below the trochanter major. The

ball penetrated the muscles, glanced against the bone, and found its way out on the inner and upper side of the thigh, without injuring any of the great vessels. He was conveyed to San Telmo, and there skilfully treated by Mr. Rutherford Alcock. The gun-shot wound healed, and the man returned to his duty, but he remained lame. He was employed for several months afterwards on board the steam-boat, and ultimately worked his passage home to England. When admitted into this institution, he stated that he had had three or four gatherings of pus form and break in the neighbourhood of the gun-shot wound, and an examination of the limb shewed the existence of several fistulous openings, of which the nipple-like orifices well indicated the existence of caries in the subjacent bone. This was evidently a case in which the ball having injured the periosteum, death of a part of the adjacent bone had taken place, and more or less extensive caries produced. Influenced by this view of the matter, Mr. Guthrie made a crucial incision through the integuments and muscles, down to the bone. A trephine was then used, and several portions of carious bone removed. With the aid of a small circular saw, Mr. Guthrie detached all the unsound bone from the healthy. The wound was filled with lint, and the patient put to bed. A healthy suppuration was set up in the exposed surfaces; all the morbid osseous particles were detached. The wound healed in due time, and the patient was finally discharged with a serviceable limb.

Upon this case Mr. Guthrie delivered a clinical lecture, of which the following paragraphs contain the substance:—

"In the accidents of civil life, the bone is in general merely broken across, or obliquely, with the point thrust through the soft parts. In gun-shot wounds it is generally the reverse, the bone being much shattered, and not appearing through the integuments. If a musket-ball, in passing through the thigh, merely touch the bone, it may, as in this case, destroy a portion of the periosteum, of which caries is the usual consequence; or it may fracture it directly across; but it will generally do it obliquely, so as to cause some little shortening of the limb when cured, even under the most attentive treatment. But when a ball strikes the shaft of the femur, it shatters the bone in every direction, although it may not pass through. It does not merely break off four or five small pieces, which may be taken away by cutting down upon the bone, but it breaks it into large pieces, generally oblique, and very pointed, and which retain their attachment to the muscles inserted into them.

"The danger and difficulty of cure attendant on fractures of the femur from gun-shot wounds depend much upon the part of the bone injured. It is consequently useful to distinguish the bone into *five* parts. Of these, the head and neck included in the capsular ligament may be considered the first. The body of the bone which may be divided into three parts, and the spongy portion of the lower end of the bone exterior to the capsular ligaments, forming the fifth part. The fractures of the first of these divisions are, I believe, always ultimately fatal. The upper third of the body of the bone, if badly fractured, generally causes death at the end of six or eight weeks. Of those whose femurs have been badly fractured in the middle part I have seen but few escape, and then not with a useful limb. Fractures of the lower third of the body of the bone are least dangerous. Fractures of the fifth division are in a great degree dangerous, as they generally affect the knee-joint. Under all circumstances, a fractured thigh by gun-shot, even without particular injury of the soft parts, is one of the most dangerous kinds of wounds that can occur. Upon a review of the many cases I have seen, I do not believe that more than one-sixth recovered so as to have useful limbs; two-thirds of the whole died, either with or without amputation; and the limbs of the remaining sixth were not only nearly useless, but a cause of much uneasiness to the patients for the remainder of their lives, unfitting them for any employment, civil or military."

Here the lecturer read a long extract from his own work on Gun-shot Wounds, recommending a more frequent and early recurrence to amputation in gun-shot injuries of the thigh than is usually adopted. He then continued:—"It is a difficult thing to persuade a surgeon, unaccustomed to the treatment of gun shot wounds, or the patient himself, when he sees but a small wound, that amputation is necessary; and as cases of success have been heard of by all, whilst the fatal ones are buried in oblivion, many officers will not submit to it; they will rather hazard their future health and happiness, and undergo great sufferings for months, to save a limb, which, when cured, they find a useless burthen for the rest of their lives.

"Wounds from musket-balls, injuring the lower part of the bone, without communicating with the joint, do not require primary amputation; they are proper cases for delay, unless there be great destruction of parts.

"In order to secure a reasonable hope of success in the management of a com-

pound or gun-shot fracture of the thigh, it is desirable the patient should be placed on a proper bedstead, of sufficient height from the ground, to render him easy of access, and capable of affording him every necessary comfort and accommodation without moving. This will be best accomplished by a bedstead and mattress invented by the late Mr. Gardiner and myself in 1815. The one he died upon in 1817 is now at Mr. Knox's, 107, Jermyn Street. This bed is so absolutely necessary in cases of diseased hip and spine, of loss of the use of the lower limbs, and of injury of the pelvis, as well as in fractures, that one or more ought, in my opinion, to be placed in every permanent hospital in the British dominions. There is one now in use in the Westminster Hospital, and it has been the comfort and happiness, as well as the saving of more than one person.

"The position of a fractured femur must be essentially of one kind, viz. straight; for it is impossible to keep a man's thigh in the bent position on the side, and himself in the same situation. No power that is likely to be employed can prevent his turning on his back, and the union, if it take place at all, must be at an angle. The bent position forwards, or on an inclined plane, is defective, inasmuch as the matter, which must necessarily be secreted in abundance, will gravitate backwards, in spite of every care to prevent it; and in many instances will form abscesses towards the pelvis instead of always running directly outwards by a fair and unobstructed opening. When a proper bedstead is used, a slightly inclined plane may be tried at a later period of time; and in some cases the body of the patient may be raised even to the erect position. This must be done with care; the object is to take off the action of the muscles inserted into the little trochanter which raise the upper end of the fractured bone upwards and outwards, an event which invariably takes place after amputation, as high as the middle of the thigh. In simple fractures position will do this; and the inclined plane, whether by splints or other machinery, will effect it very well; but as an inclined plane can rarely be used with advantage in gun-shot fractures, the rising end of bone must be kept in its place, principally by raising the body, or by proper and well-directed padding; and its inclination outwards must be met by a similar direction of the lower part of the limb. These advantages the army never hitherto have had. I am aware of the difficulty of carrying these bedsteads to the scene of action in a distant country; I am also aware of the expense; but feelings of humanity, and public gratitude towards our brave defenders, ought in this case to prevail over considerations of economy. A bedstead with mattress, &c. complete, may be easily bought, packed, and conveyed to the most distant of our possessions, for ten pounds; and six of them may be carried upon a common cart to wheresoever they may be wanted. If a second inclined plane and another set of bedding are added to the box, it will cost thirteen pounds, and will answer for two fractures. The battle of Toulouse, out of 1242 wounded, gave 43 fractures of the thigh which we endeavoured to save, and this may be considered as the usual proportion which this class of injuries bears to the sum total of the wounded; and I should say that a corps of 10,000 men ought to be supplied with a reserve store of twenty of these double bedsteads, at an expense, perhaps, of 260*l*. In Spain and in France we had nothing of the kind; and many soldiers suffered intolerable torments that might have been greatly alleviated, and many lives were lost that might have peen preserved.

In gun-shot fractures of the leg, as well as in those of the arm, the first thing to do is to remove splinters and extraneous bodies. The bone being larger than that of the arm, the splinters are often more numerous and larger, upon which depends the question of amputation. But supposing that question to be decided in the negative, they are to be treated in a similar manner, and the extraneous substances or comminuted parts must, as far as is possible, be removed. These fragments must not be removed all at once, or at several succeeding examinations. They cannot come away of themselves unless they are very small; incisions must therefore be made for their removal, before any quantity of new bone shall be formed round them. This is a difficult but interesting point of practice, and requires experience for its safe conduct. The removal of splinters is sometimes neglected from the great thickness of the muscles of the thigh, or from the wound having been on the inner aspect of the limb, and near the great blood-vessels, where the making a large incision incurs risk. The thickness of the muscles does not offer a sufficient reason for avoiding an incision; and if the situation of the bone on the outside of the thigh be clearly known, a little reflection will shew that it can be got at easily in that part, if it cannot in another. If splinters are not removed, they become incarcerated by new bone, and remain either to be removed by a subsequent more painful and hazardous operation, or to continue a source of irritation for life. This irritation is not long in killing a patient. [Here the lecturer exhibited several femora, affording examples of necrosis in various stages.]

Where a splinter of dead bone is locked

up in new bone, amputation does not always give relief, or save life, for independently of the hazard of this operation high in the thigh, the femur above the injury is not always sound. It may be suffering from irritation of its internal membranes, and the saw only adds a mechanical injury to the mischief already existing. The internal membrane dies, and a necrosis extends upwards sometimes as high as the small trochanter. Although this evil occurs most frequently after gun-shot fracture, it also sometimes takes place after amputation in ordinary cases; I therefore warn you against the old practice of scraping off the periosteum before sawing the bone. A practised surgeon may amputate a thigh in 70 or 80 seconds; but gentlemen must not think they can saw bones by intuition; it requires practice to make perfect, as in every other art. If you wish to saw living bones in an artist-like manner, buy a couple of broomsticks, and saw them by inches; after this try your hands on dead bones, and then you will be fit to act on living ones.

It is possible to save thighs fractured any where, except at their extremities, by attention to the directions I have given, if you have at hand all the necessary appliances of surgery; but if you have not, and the patient must be kept in a constant state of motion and irritation, it is better to cut off his thigh at first.

Splints for fractured thighs must be of three kinds, with proper pads:—1. Long Desault splints. 2. Amesbury's leg and thigh splints, to be used straight for the thigh. 3. Common solid wood and tin splints."

The double inclined plane has for seventy or eighty years been employed at this hospital in fractures of the lower limbs of almost every description. The old apparatus, which has been supplanted by the more elegant inventions of Mr. Amesbury, still exists in the lumber room of the establishment, and although rude in its construction, is formed upon the same principles as the most approved modern contrivances. The late Mr. Lynn was particularly eloquent in the praise of the ancient machinery which he had employed with eminent success from his youth. Mr. Guthrie's colleagues still continue the employment of the double inclined plane, and will not certainly concur with him in his preference of Desault's straight and painfully coercive splints.

The reporter has witnessed Mr. Guthrie's surgical bed in action, and is sorry he cannot concur in the eulogy which he has pronounced upon it. This bed or couch consists of an ordinary bedstead, with four strong posts. To the top of each post is affixed a pulley. A frame is placed over the patient (after the bed-clothes are removed), and broad straps or bands are placed under him at certain distances, and buttoned to the frame. The ropes of the pulleys are then fixed to this frame, and the patient is raised towards the top of the bed. By this means the under parts of him are exposed, and may be dressed. The process, however, is a long one, and extremely painful, and Mr. Guthrie has not succeeded in inducing any one of his colleagues to adopt the use of it. On the contrary, they prefer a couch invented by Mr. W. P. Knox, of Jermyn-Street, the machinist employed by Mr. Guthrie. This couch, which the author has named "the revolving invalid bed," is really an admirable invention, and deserves to be generally known. By a very ingenious mechanical arrangement Mr. Knox has enabled a patient to be moved in a great variety of directions, without any effort or movement of the patient himself. The machine is now employed in the Ordnance hospitals, in St. Thomas's, the Westminster, and some others, and has been found a great alleviator of pain. The following purposes are answered by its use:—

By the revolving motion the patient may have the pressure removed from one point of gravitation to another, in the direction of any radius from the vertical axis of his body, without the exertion of a single muscle by himself. Thus all the evacuations of the patient are made conveniently, and free from effort, the dressing of wounds and sores is facilitated, and the *ennui* of uniform position is avoided. By the addition of a few contrivances to the revolving principle, the head of the occupier may be raised to a variety of different elevations; a double inclined plane is adapted either to one or both lower limbs; and a fracture apparatus suited to the superior extremities may be added. In bed sores the reporter considers it superior to Dr. Arnott's hydrostatic bed, which, from the great heat which it produces, by the suppression of transpiration, is not long tolerable by the patient. No such inconvenience, it must be obvious from the description, can attend the use of the couch now spoken of. The writer thinks that every private practitioner will be glad of the opportunity which Mr. Knox willingly affords of inspecting it; and afterwards of applying it to the alleviation of some of those melancholy cases of long-suffering which the lot of humanity too often presents. From the compactness of Mr. Knox's bed, it is capable of being converted into an ornamental piece of furnit ure.

IDIOS.

GLASGOW EYE INFIRMARY.

Clinical Lectures by Dr. Mackenzie.

September 22nd, 1838.

Iritis Sympathetica.

I am about to direct your attention to a disease of the eye, of which we have had numerous cases under our care in this infirmary, and which my colleagues and I have been in the habit of distinguishing by the name of *iritis sympathetica*. It is a very serious disease; indeed, it has generally proved, in the long run, intractable in our hands; and, as it follows, and is in fact the result in the one eye, of a previous mechanical injury, which has already greatly impaired or destroyed the other, the undertaking of the treatment of it involves a heavy responsibility on the part of the practitioner. Whenever I see sympathetic iritis, even in its first stage, I know that I have to contend with an affection, which, however slight its present symptoms, is probably the most dangerous inflammatory disease to which the organ of vision is exposed.

The general nature of the sympathetic affection, which I am about to illustrate by references to our case-book, is inflammation, not of the iris only, but involving more or less the whole of the internal textures of the eyeball, especially the crystalline and vitreous capsules and the retina; coming on, generally, in five or six weeks after a lacerated wound of the opposite eye, and terminating, most frequently, in atrophy and total amaurosis of the eye secondarily attacked. The one, also, which received the original injury, generally ends, or has already ended, in an amaurosis and softening of the globe.

Case I.—We have an example, then, of this sympathetic ophthalmia in David Mill (No. 8766), one of our present inpatients. He is 38 years of age, an engineer, and was admitted on the 30th of August, 1838.

When residing in Edinburgh, eighteen months ago, and whilst chipping iron, a splinter entered right eye, at outer edge of cornea. He continued to work for six weeks with his right eye tied up, when the left eye beginning to inflame, he gave up working. About two months after receiving the injury, a swelling formed over the wounded part, which being cut off, the foreign body, he says, was extracted. The right pupil is dragged towards the cicatrice; the nasal part of the iris is on the stretch; the capsule of the lens is opaque; the iris is close to the cornea, and is pretty natural in colour. The eyeball is of the healthy consistence, and the cornea not more flexible than natural. No pain in right eye. With this eye discerns the fingers indistinctly, and sees a pen as a long stalk. Thinks vision of right eye improving.

About a fortnight before the piece of iron was extracted from right eye, the left began to be inflamed, and has suffered severely from iritis sympathetica. The iris is greenish; the pupil is nearly natural in size, but is mis-shapen, with its edge jagged, and fixed by adhesions to the capsule. Within the verge of the pupil the capsule presents a whitish wreath, without any red vessels. The whole of the lens is hazy, and of a greenish hue; consistence of eye natural: with this eye knows the infirmary card to be printed, and reads a type about three quarters of an inch in size.

Was at first affected with severe nocturnal circumorbital pain, for which he applied leeches, but was not bled at the arm. His mouth was made sore with mercury, which relieved the pain and improved his sight. Left eye has been pretty free from redness till within four or five months ago. Within last month its power of vision has declined, for at that period he could read an ordinary type. Pulse 84; thirst; appetite deficient.

A pill, every night, containing two grs. calomel and gr. ss. opium. Belladonna collyrium.

31st.—Has had no eruption on his skin. This question was put, with reference chiefly to syphilis; as in a previous case of sympathetic iritis, which we had here, there was some reason to suspect a syphilitic complication.

Sept. 4th.—Complains more of photopsia in both eyes, with occasional headache. Less thirst; appetite improved; bowels rather confined.

Castor oil, ℥j.

5th.—Still complains of flashes of light in both eyes.

Blisters behind ears.

6th.—Vision of both eyes, he thinks, improved; mouth sore.

Pill omitted.

7th.—Alum gargle.

8th.—Castor oil repeated.

11th.—Three leeches to nasal angle of left eye.

18th.—Complains more of pain in left eye; bowels rather costive.

Castor oil repeated.

19th.—Left eye relieved.

To take 20 drops, thrice a day, of a solution of 15 grains Murias Barytas in ℥ss. Tinct. Cinchonæ.

20th.—Thinks vision of right eye somewhat improved since his admission. Sees the large letters which he read at his admission plainer. No visible change in either eye.

Of the other cases of sympathetic iritis which I mean to bring before you, it will, in general, be unnecessary to quote the whole details of the treatment. These you can ascertain, if you think it proper, by referring to the journals.

Case II.—Henry Paterson (No. 1010), aged 25, admitted 31st January, 1827. Two months before his admission struck the left eye against a nail which stood out from a door-post. The upper part of the iris is no longer in view, so that the pupil is much enlarged, and shifted to behind upper edge of cornea. Severe inflammation has followed the accident, and has communicated itself also to the right eye, which, indeed, suffers more at present than the left. Both eyes exceedingly irritable on exposure to light, and affected with profuse epiphora. The right pupil small; both irides greenish, and both corneæ hazy. Retains a degree of vision in left eye; bowels very bound. Leeches have been applied frequently to the temples.

On the 7th February he is reported as improving, but very slowly. The treatment consisted in an emetic, followed by calomel, opium, and tartrate of antimony, with blisters, belladonna externally, and solution of nitrate of silver to the eyes.

We find from the subsequent reports, that his mouth becomes sore, and the pain diminishes. Afterwards the tenderness of both eyes increases and diminishes alternately.

On the 6th April he is stated not to have improved for the previous fortnight. On the 16th his mouth is sore, and his eyes decidedly improved. On the 30th, mouth well; inflammation continues to decline; vision of right eye very much better.

On the 11th May, left lens is mentioned as in an opaque state, and pressing the iris into contact with the cornea. After this, paracentesis corneæ was twice performed, but with little or no relief.

About the middle of June, the irritability of the eyes diminishes. This symptom had continued in a very distressing degree; but on the 11th July, the report states, that he can now open his eyes, which he attributed very much to steaming them with laudanum. On the 20th, intolerance of light much abated, so that the right pupil can now be observed contracted, and filled with a fibrinous effusion.

15th Aug.—Can now distinguish objects of moderate size. Inflammation and intolerance of light continue to decline. This improvement took place under the continued use of calomel and opium, and a decoction of elm bark.

17th Sept.—Inflammation now gone; vision improves slowly. Centre of right anterior capsule opaque. Pupil somewhat contracted and adherent.

16th Nov.—Right pupil as at last report. Vision considerably improved.

25th Feb. 1828.—Vision improving.

During these twelve months, a great variety of remedies was employed. The principal were: 1, leeches; 2, scarifications of the eyelids; 3, paracentesis corneæ; 4, blisters; 5, tartar emetic eruption; 6, a caustic issue; 7, purgatives; 8, calomel and opium; 9, cinchona; 10, elm bark; 11, belladonna externally; 12, solution of nitrate of silver, and vinum opii, to the eyes; 13, anodyne fomentations; 14, red precipitate salve. Whatever benefit arose from the treatment, was to be ascribed chiefly to the 1st, 8th, and 13th of these remedies.

We saw nothing more of Paterson till the 8th September, 1830, when he was readmitted, (No. 3011) for the purpose of having an artificial pupil formed in his right eye.

The report, at his re-admission, states, that his right pupil continues very small, irregular, filled with lymph, and attached to the capsule. Within last twelve months his vision has greatly declined, so that when his back is turned to the light he can discern merely the reflection from the face of a person standing before him. The iris is of a green colour, but there is no vascularity on the surface of the eye. Says that upon catching cold, the eyes are apt to become tender.

On the 19th, I performed the operation of incision with Maunoir's scissors. I need not describe the operation, nor dwell on the difficulties with which it was attended. These are set down at full length in the case-book. Any hopes of a restoration to sight by the operation were destroyed, in consequence of a blow which our unfortunate patient received on the right eye from a person in liquor, on the 28th March, 1831, which filled the aqueous chambers with blood, and completed the disorganization of the eye.

Case III.—Joseph Moore (No. 5947), aged 30, was admitted 14th Dec., 1834.

About three months ago the right cornea was cut by a chip of cast-iron. Some portion of the humours escaped. Violent inflammation followed, which has terminated in discolouration of the iris, and coarctation of the pupil to a mere point, which is occupied by opaque capsule. Complete extinction even of perception of light in this eye.

About a month after the accident, the pain, which was at first chiefly confined to the right orbit, extended to the left. Since that time he has had symptoms of iritic inflammation in left eye. The iris is discoloured; the pupil irregular, contracted, not affected by light, and occupied by opaque capsule, apparently adherent to margin of iris. The opacity is less dense in the centre. With this eye he can still distinguish the bars of the window, and count the fingers interposed between him and the window. Occasional circumorbital pain over both eyes. Severe pain in bulb of left eye, especially at night.

Has been bled, and used some mercurial preparation, with temporary and partial benefit.

He was bled at the arm, leeches were applied to left conjunctiva, belladonna extract was smeared round the eyes, and he was ordered a pill, morning and evening, containing calomel, opium, and belladonna leaf, of each 1 grain.

Under this treatment vision improved slowly, but he still complained of pain in the balls of his eyes. Two grains of belladonna leaf were substituted for one grain. His mouth became sore, and the pain was relieved. It soon returned, however, and seems to have been but slightly alleviated by opium and belladonna internally, which made up the chief part of the treatment during January.

On the 5th February the report states, that considerable improvement had taken place in the vision of the left eye. Gentian, and afterwards quina, appear to have been employed on account of general weakness. No further improvement is noticed.

Case IV.—James Downie (No. 7538), aged 25, was admitted 5th January, 1837.

About three months ago his right eye was wounded by a splinter of steel. It now presents a cicatrice at the junction of the cornea and sclerotica, towards nasal side of eye. The pupil is dragged towards the cicatrice, while the iris opposite to it appears on the stretch. There is some opacity towards lower part of pupil. No pain. Vision of right eye much impaired.

About seven weeks ago the left eye became affected. The iris is now discoloured; the pupil contracted and irregular. The form of the eye is disfigured, the anterior part being projected. The conjunctival vessels are red, and there is a bluish zone around the cornea. Does not complain much of pain in the eye: its vision seems nearly extinct.

Has been bled, blistered, and mercurialized, and had improved considerably, but having gone to the country about ten days ago, became much worse.

Leeches were applied to the left upper eyelid, and a blister behind the ear. Calomel and opium were prescribed, and Dover's powder at bed-time. These remedies were continued, along with repeated leeching, and the external use of belladonna, during the month of January, with little or no effect on the state of the eyes. On the 1st February the report states, that, with his back turned to the light, he distinguishes objects with the right eye, but not with the left. He is put on a solution of hydriodate of potass, 3ij. to ℥viij. of water, a table-spoonful thrice a day; and the quantity of the hydriodate is increased gradually to 3iv. There is no notice of any improvement; but, on the contrary, the surface of the iris is stated to have become vascular—a very unpromising symptom; and on the 16th he is ordered to be bled at the arm, on account of increased inflammation of left eye. His mouth does not appear to have become sore. The bleeding at the arm relieves the pain of left eye. On account of costiveness, the calomel and opium pills are changed for blue pills. On the 22nd, his mouth is pretty sore, but there is no improvement in vision, and the irides are described as assuming a gilt green colour. He now complains of want of sleep, and is ordered opium and sarsaparilla. This last medicine appears to have been continued for nearly two months, but without benefit. On the 22nd of April, the sarsaparilla is discontinued, and he is ordered one-sixteenth of a grain of oxide of arsenic thrice a day. On the 6th May the report states, that there is no change. The outer margin of each iris is occupied by a lavender-coloured ring. The left pupil is contracted, and occupied by opaque capsule.

Case V.—Robert Finlay (No. 7873), aged 24, was admitted 5th July, 1837. Last night the right cornea was penetrated by a screw-driver, so as to form an angular flap, with the apex pointing downwards and inwards, while the extremities of the incision are separated by a space equal to the diameter of the cornea. Much blood is effused into the anterior chamber. The iris appears to be wounded; the state of the pupil cannot be discovered. Vision with this eye is reduced to a mere perception of light. The eyelids were brought together, and a bandage applied.

V.S. Six grains of calomel.

6th.—Pain relieved. As the calomel had not purged, he was ordered three aloes and blue pills.

On the 1st August, the wound is said to be cicatrized; pupil very irregular; considerable vascularity of eye; little pain.

A blister behind right ear. Muriatis Hydrargyri Collyrium.

5th.—Eye less vascular; lids adhere in the morning.

Four-grain solution of Nitras Argenti.

Leeches were after this applied twice to the eye-lids.

On the 13th we find the following report:—Since yesterday an attack of iritis sympathetica of left eye, with pain beneath the eye-brow during the night. Upper edge of pupil appears tagged to capsule. Ascribes this attack to having read a book, in small type, for three or four hours last night. Pulse 84.

V.S. Belladonna to left eye-brow and upper eye-lid. Six grains of calomel, and one grain of opium, at bed-time. An ounce of Sulphas Magnesiæ to-morrow morning.

14th.—Blood buffy; pain greatly relieved; cornea flexible; pupil tagged above and below.

Eight leeches round left eye. Belladonna repeated. Calomel and opium at bed-time, and salts to-morrow morning.

15th.—Pupil transversely oblong; vision very dim.

V.S. Blister to left side of head. Four grains of calomel, and half a grain of opium, thrice a day.

16th.—Blood buffy.

17th.—Pain of left eye entirely gone; pupil still irregular; mouth not affected; tenesmus.

Castor oil, ʒj. Calomel and opium continued.

18th.—V.S.

19th.—Blood buffy; eye much less vascular; vision clearer.

20th.—Cornea less flexible.

21st.—Castor oil repeated.

23d.—Pupil more regular; eye free of vascularity.

24th.—Two grains of calomel, and a quarter of a grain of opium, daily.

27th.—Mouth sore.

Calomel and opium omitted.

31st.—One grain of Sulphas quinæ thrice a day.

Sept. 1st.—Lower part of pupil more regular.

3d.—Sulphas magnesiæ, ʒj.

4th.—Very numerous and minute whitish spots, apparently on the inner surface of left cornea, opposite lower edge of pupil.

Belladonna omitted.

Sulphas magnesiæ repeated on the 7th; and 8th, calomel and opium renewed.

12th.—As the pupil contracts from the omission of the belladonna, vision becomes dimmer.

Calomel and opium morning and evening.

On the 15th, vision clearer. He had sulphate of magnesia on the 13th, 14th, 19th, 24th, and 25th.

On the 26th the calomel and opium were stopped.

27th.—One grain of opium. Alum gargle.

29th.—No pain in right eye unless when pressed with the hand. The minute spots on inside of left cornea still very numerous. With this eye reads a very large type.

Two grains of extract of stramonium morning and evening.

Oct. 5th.—Was attacked last night with violent pain in both eyes. At present the pain affects principally the left eye.

V.S. To foment the eyes with poppy decoction.

6th.—Left conjunctiva this morning in a highly chemosed state.

V.S. Four grains of calomel and one grain of opium at bed-time, and half these quantities in the morning.

7th.—A much better night; inflammation greatly abated.

10th.—A recurrence of severe pain this morning. Leeches; fomentation.

13th.—Has again had a smart attack of pain. Pulse 84, feeble; fomentation.

14th.—Mouth sore. Calomel and opium omitted. Alum gargle; blister behind left ear.

16th.—No pain in eye; mouth better.

18th.—Another attack of pain this morning. Five leeches; fomentation.

21st.—Has continued easy since the application of the leeches.

25th.—This forenoon was again seized with pain, which is accompanied this morning with vomiting. Four leeches; fomentation.

Nov. 8th.—Has continued free from pain since last report.

10th.—Some pain in right eye. Two leeches. Two grains of calomel and half a grain of opium at bed-time.

Dec. 10th.—At present the right eye is entirely free of inflammation. Its cornea is bounded by an irregular line, and is reduced to half of its original size. Distinct perception of light and shadow with this eye. The cornea of left eye is now unnaturally prominent, and surrounded by a

reddish zone. The iris is greatly altered in colour, and is bulging forwards, so as to be very nearly in contact with the cornea. The pupillary margin seems to be adhering to the capsule, which is opaque in the centre. The perception of light is less even than in right eye. Some palpitation for four or five weeks; pulse 110, rather sharp.

Case VI.—Jane Gartshore, (No. 8455) aged fifteen years, admitted 30th April, 1838.

Six months ago, left cornea was divided, towards its outer edge, by being struck against the latch of a door. The iris had protruded, as it is now dragged towards the site of the wound, and fixed there. What remains of the pupil is occupied by opaque capsule. Large varicose vessels run towards the cicatrix. There are also numerous vessels on the surface of the iris. This eye retains the perception of light and shadow.

Four or five weeks after the injury, sympathetic iritis came on in right eye, and the vision of this eye, also, is now reduced to a perception of light and shadow. The right iris is of a dingy green colour, with numerous varicose vessels running over it. The pupil is contracted, irregular, and adherent to an opaque capsule. Both irides are close to the corneæ.

Has now no pain. It was severe in the left eye, for nearly four months; but the right eye, she says, has never been affected with pain. General health was previously good. Pulse 120. Was twice bled at the arm; applied leeches and blisters, and took some medicine, which did not affect her mouth. Two grains of calomel and half a grain of opium thrice a day.

May 7th.—Thinks her vision improved.

Such are some of the cases on our books, serving to illustrate the fact, that the one eye sympathizes strongly with the other, when the latter has suffered from mechanical injuries of certain of its textures. The conclusions which these cases, as well as others recorded by different authors, warrant us in drawing respecting this sympathetic ophthalmitis, I shall endeavour to arrange and lay before you next Saturday. In the meantime I may refer you to two authors, whose works ought to be in the hands of you all. You will find it stated by Mr. Wardrop, (Morbid Anatomy of the Human Eye, vol. ii., p. 36), that when inflammation is excited in the iris of one eye, it sometimes happens that the iris of the other eye is in like manner affected. He notices an instance, in which the iris of one eye being inflamed in consequence of a punctured wound, the same disease soon afterwards attacked the other eye; and at page 116 of his first volume, he mentions the case of a person, who having received a blow with a pike on one eye, which produced staphyloma, the other eye, more than a year afterwards, inflamed, and gradually became staphylomatous likewise. At page 147 of Mr. Lawrence's Treatise on the Diseases of the Eye, you will find it stated, that "when an eye has been lost by accident, the other often becomes diseased sooner or later, without any imprudence, or any external influence that would be injurious under ordinary circumstances. This kind of occurrence is so common," says Mr. Lawrence, "that it is necessary to warn those who have lost an eye of this danger." Six cases are given in illustration.

ST. BARTHOLOMEW'S HOSPITAL.

CASE OF HYDROPHOBIA.

To the Editor of the Medical Gazette.

Sir,

If you should consider the particulars of the following case of sufficient interest for insertion in your journal, they are at your disposal. I am, sir,

Your obedient servant,

James Wm. Ilott,

House Surgeon, St. Bartholomew's Hospital.

September 29. 1838.

Ann Jameson, æt. 53, residing at Bromley, in Kent, was bitten on the back of the right hand and fingers by a terrier, supposed to be mad, on Sunday, July 22nd, 1838. Shortly after the infliction of the wound the parts were excised and cauterized, and soon perfectly healed. She, however, afterwards occasionally complained of slight uneasiness in the hand—a circumstance attributed by her friends to fancy, as she was a good deal frightened about herself. On Monday, the 24th of September, she complained of considerable pain in the hand, running up the arm, and also of a sensation which she describes as being like the pricking of pins or needles, whenever she draws her left hand across the arm, or extends the fingers. On examination, the cicatrices and parts adjacent appear in a quiet state. There is, however, a slight tumefaction on the back of the hand, near to one of the wounds, but not in the course of the absorbents. At this time there was no other symptom.

25th.—During the night she was attacked by spasms in different parts of the body; more particularly in the muscles employed in deglutition. The spasms are

evidently excited by the presence of liquids; and, on attempting to swallow water or any other fluids, or indeed solids, are much increased.

Afternoon.—The spasms are as frequent, but not so violent, but are much aggravated by the attempts to swallow fluids. The countenance is calm in the intervals of the spasms.

26th.—Has passed a very restless night. She has never slept since the commencement of the attack. About two o'clock she brought up a considerable quantity of dark slimy mucus. The vomiting continues, and is now almost incessant, with much straining. The matter ejected she says is very bitter. The hydrophobic spasms have somewhat abated since the vomiting came on, and she is now able to swallow fluids without much difficulty; but they are almost immediately rejected.

Afternoon.—The vomiting of the dark-coloured matter has ceased, but the sickness continues, with a constant spitting of large quantities of white frothy phlegm. She says that the only pain she feels is in the throat. The countenance is much distressed, and she is very restless, and sighs frequently. The pulse, up to the present time, had been regular, but is now accelerated. The tongue white, but not coated. The sensorium somewhat affected, as she talks incoherently at times, but answers rationally any question put to her.

Evening.—She has fainted two or three times, having at the same time slight convulsive twitchings, which lasted for some minutes. These convulsive attacks increased in strength and duration, and at twelve o'clock she died.

The treatment consisted principally in the administration of opium and ammonia. The following were the appearances I observed on making a post-mortem examination, commencing with the spinal cord, the membranes of which, more particularly the arachnoids, were found considerably inflamed. The cord itself was healthy, but perhaps a little softer than usual. Brain and its membranes healthy, with the exception of some ossific deposits in the falciform process of the dura mater, and some serous effusion in the choroid plexus of the left side. Mucous membrane of the pharynx, and upper part of the œsophagus, as likewise of the stomach, more particularly at its pyloric extremity, inflamed. The reddening of the membrane of the œsophagus terminated somewhat abruptly at its upper part. There were several darker spots in the stomach, apparently from the ecchymosis of blood in those situations. All the other viscera of the body were healthy.

The above case, I think, presents two or three interesting points of observation, and, firstly, as shewing that the measure on which certainly the most reliance is to be placed in the prevention of this truly formidable disease, namely, careful excision and cauterization of the parts, will not always succeed, although done shortly after the reception of the injury; and again, with regard to the influence that the mind may have in exciting the disease. The same dog that bit this woman had attacked and bitten other persons, one the servant of a gentleman in the neighbourhood. He had been bitten in the hand a short time before the woman was attacked. The same measures were adopted as in her case; but since then, at least up to the present time, he has remained free from apprehension; she, on the contrary, has always been more or less alarmed about herself. In this, then, as in many other affections, the state of mind must be considered as having something to do among the predisposing causes of disease, those being less liable to be attacked who fear it least. There is, I think, another point in the case worthy of remark, namely, the partial subsidence of the hydrophobic spasms after the violent vomiting which occurred.

SPLINTS USED AT UNIVERSITY HOSPITAL.

To the Editor of the Medical Gazette.

Sir,

In the absence of Mr. Keyser, allow me to point out an error in the letter of your correspondent, Mr. Hancock, who makes the former gentleman to have said, "that no such spint as Mr. Amesbury's is employed in the North London Hospital;" whereas the words were, that "the splint represented is not that of Mr. Amesbury; nor is any such splint employed *in the treatment of fractures of the thigh* at this hospital."

The readers of your journal will not fail to observe a wide difference between the words actually used, and the representation given of them by Mr. Hancock.

The name of the splint here called "Liston's," is of little consequence; the splint itself is a modification of M'Intyre's, constructed under the direction of Mr. Liston, and possessing these important advantages over the original, and also over that of Mr. Amesbury—that it is more simple in construction, more easy to the patient, and less expensive in cost; the first and last of which advantages have been done away with by your correspondent, Mr. Hancock, who has thus succeeded in complicating a single apparatus, for the

sake of employing it for purposes to which it was never intended to be applied, and for which may be used means much more simple and efficient.

With regard to the integrity of Mr. Liston, of course neither Mr. Keyser nor myself have any intention of impeaching it; but I would ask of Mr. Hancock whether a non-professional person, an artist, would be more likely to know if a fracture, adjusted upon a certain apparatus, was one of the leg or the thigh, than the house-surgeon, who probably reduced it, and effected its adjustment himself.

I am, sir,
Your obedient servant,
J. Durance' George,
House-Surgeon.

University College Hospital,
September 26th, 1838.

SINGULAR INSTANCE OF ATTENUATION.

The following singular instance of attenuation is extracted from Urquhart's *Travels in the East*, and is curious in a physiological point of view:—

"In passing through a village, I was struck with the sight of a stiff and shrivelled corpse, clothed and seated in a chair, laid slanting against a wall, so that the feet were in the air, and the head was bent down upon the breast. While I was looking at it, I was startled by a jerking motion in the right arm, and then seeing two black and vivid eyes straining to catch my attention. This was a human and a living being, which had existed in this shrivelled and motionless state for 28 years; the flesh seemed to have disappeared from his bones; the skin had shrunk, and was almost black: I have seen mummies that appeared in a better state of preservation. The joints were all fixed, with the exception of the right shoulder and the jaws. This freedom of the shoulders amounts, however, only to three inches of a see-saw movement of the fore-arm, and he keeps working it backwards and forwards, as he says, *for exercise.*"

NUMBER OF MEDICAL MEN IN GREECE.

In 1837, Greece contained upwards of 926,000 souls: the army amounted to about 12,500, and the navy consisted of 32 vessels of war. The entire number of licensed practitioners, exclusive of the medical men belonging to the army, was 85; but there were no fewer than 130 empirics, who are tolerated by the government, in consequence of the lack of educated practitioners.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, September 20.

John Augustus Edwards, Wiveliscombe, Somerset.—Walter Mitchell, Birstall, near Leeds.—Samuel Flood, Leeds.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Oct.* 2, 1838.

Abscess	10	Heart, diseased	1
Age and Debility	103	Hooping Cough	23
Apoplexy	9	Inflammation	44
Asthma	26	Bowels & Stomach	3
Cancer	5	Brain	4
Childbirth	10	Lungs and Pleura	1
Consumption	99	Insanity	4
Convulsions	73	Jaundice	1
Croup	2	Liver, diseased	3
Dentition or Teething	6	Measles	9
Dropsy	31	Mortification	7
Dropsy in the Brain	20	Paralysis	2
Dropsy in the Chest	2	Small-pox	45
Epilepsy	7	Sore Throat and Quinsey	1
Erysipelas	13	Tumor	2
Fever	21	Unknown Causes	61
Fever, Scarlet	25		
Fever, Typhus	16	Casualties	28
Gout	1		

Increase of Burials, as compared with the preceding week . . . 560

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ *W. of Greenwich.*

September.	Thermometer.	Barometer.
Thursday . 20	from 53 to 65	29·77 to Stat.
Friday . . 21	34 59	29·77 29·81
Saturday . 22	32 62	29·82 29·83
Sunday . . 23	47 66	29·86 29·84
Monday . . 24	41·5 55	29·83 29·74
Tuesday . . 25	50 55	29·72 29·78
Wednesday 26	44·5 60	29·87 29·90

Winds, S.W. and N.E.

Except the 20th and 22nd, generally cloudy, with rain on the 23rd and two following days; lightning in the S.E. on the evening of the 21st.

Rain fallen, ·7 of an inch.

Thursday . 27	from 52 to 59	29·83 to 29·83
Friday. . . 28	37 59	29·87 29·94
Saturday . 29	38 67	29·94 29·95
Sunday . . 30	55 63	30·06 30·15
October.		
Monday . . 1	44 61	30·20 Stat.
Tuesday . 2	51 62	30·21 36·28
Wednesday 3	46 63	30·28 30·30

Wind, N.E.

Except the 28th ult. and 2nd and 3rd inst., generally cloudy, with rain on 27th and 29th.

Rain fallen, ·9 of an inch.

Charles Henry Adams.

Wilson & Son, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, OCTOBER 13, 1838.

LECTURES ON SURGERY,

DELIVERED AT ST. THOMAS'S HOSPITAL,

BY THE LATE MR. CLINE;

With Notes.

[THESE lectures were written by Dr. Wilkinson when attending Mr. Cline's lectures, in the years 1787-88-89.

Extract of a letter from Dr. Wilkinson, dated Feb. 6, 1838:—"They (these lectures) are the results of six courses of lectures I attended at St. Thomas's, in 1787, 1788, and 1789; and I am in hopes I did not omit any interesting part of Mr. Cline's valuable observations. The one I had the pleasure of giving you is the repeatedly corrected copy."]

LECTURE III.

Observations on Cancer — Extirpation of the Mamma — Fistula Lachrymalis; different modes of relieving it by operation—Cataract, Couching, and Extraction of the Lens—Operations on the Iris—Extirpation of the Eyeball.

Amputation of the female breast. — This operation is generally performed on account of a scirrhous affection of the breast, which terminates in a truly cancerous ulcer, provided the process of the disease is not stopped. Before we proceed to the operation, it will be necessary to say something respecting the progress of this disease. It usually begins with a small tumor, which increases very gradually; and gradually, as it is increasing, a greater portion of the glandular part of the breast becomes hardened in the same way. One very striking characteristic of the disease is, that of its not terminating in a circumscribed edge, like other encysted tumors. You find a very gradual diminution of the hardness, so that you cannot tell by the feel where it terminates. There is rather a sensation of numbness than pain, in the beginning. The disease gradually advances, and as it increases in size it approaches nearer the surface; when it arrives near which, the skin adheres to it, so that it loses its motion; soon after this it takes on a purplish red colour, when we find the surrounding superficial veins become enlarged and tortuous in their course, supposed to resemble the claws of a crab—whence it has been called cancer. This occurs not in cancer only; but wherever there is an increased circulation in a part the veins become proportionably enlarged. Then discolouration of the integuments takes place, at which time the tumor usually becomes more painful than before; soon afterwards some small ulcerations take place about some part of the surface, usually about the middle of the purple part, and a little bloody serum is discharged. As soon as it is opened the pain becomes more considerable and constant, burning lancinating pains extending to the arm, so that the patient gets but little rest. The discharge, which is a mixture of serum and blood, gradually increases; the wound usually becomes very offensive, and the patient is gradually worn out by the pain and discharge; and what further contributes to hasten this is, that as the varicose veins become frequently ulcerated, and their coats destroyed, very profuse hæmorrhages often occur. Besides this diseased affection of the contiguous parts taking place, we find other textures which are deeper seated become affected, as the pectoral muscle, to which, as the tumor increases in size, it adheres; to ascertain this, put the muscles on the stretch, and if the tumor adheres it will not be moveable. Also, the contiguous lymphatic glands gradually partake of the disease. When the tumor becomes painful, soon

after there is usually pain in the axilla; and when examined, the lymphatic glands are found enlarged; sometimes only one or two may be felt, whilst at others times there are clusters of them. This disease originates at one small part of the glandular substance of the breast in general, and gradually contaminates the rest by extending to all the contiguous parts. The lymphatic glands become diseased from some absorption of the fluid situated within the parts, which being constantly carried to the lymphatic glands, eventually affects them, but more particularly the glands where the fluid is deposited first. This disease usually arises spontaneously without any evident known cause, and most frequently in women between 40 and 50, usually about the cessation of menstruation. Generally at this time the glandular substance becomes less. About the time when their menstruation becomes irregular, and does not observe its periods and quantities as usual, then they are very subject to the formation of these hard tumors in the breast, which in some make more rapid progress than in others; in some a large portion of the substance of the breast becomes diseased, in others it begins at one part only. I have seen some where it has begun in the whole substance at once. Every now and then it arises from injuries of the part, as blows, and that at almost any period of life. With careful attention, many of these, especially those arising from injuries, may be removed at first, by evacuations, local bleeding, &c. If these do not remove the complaint, it will be necessary to adopt a course of medicine, which is of long continuance. Cicuta has been recommended in these instances, and I have given it in considerable doses, such as two, three, or four drachms daily; it alleviates the pain, but is not attended with much advantage. Soon after the medicine is left off the tumor again becomes painful, and increases. In some instances I have known electricity succeed, by passing small shocks through the parts; and in some, small doses of mercury have entirely removed it. In some few instances I have known emetics succeed, but have found nothing so successful as martial flowers*, continued for a great length of time, as much as the stomach can bear, in the form of pills, beginning with about five grains, and gradually increasing it. This should be continued many months, sometimes more than a twelvemonth. We find it remove the pain, which returns if it be left off; therefore it should be continued a long time after the patient is well. However, there are many cases which this medicine will not benefit, especially such as arise spontaneously. In some few cases I have known it remove them, though rarely. However, during the exhibition of these medicines, the tumor should be carefully examined from time to time; for if we should find it increase in size we ought speedily to recommend the operation, for the sooner this is performed, the more certain we are of successs, as it is a disease which, when arrived to a certain extent, cannot be removed by any means. For instance, though the tumor is but of a moderate size, and attended with very inconsiderable pain, the glands in the axilla often become affected, even at a time when they do not appear to be so at all, or only one seems enlarged; yet after the operation, you find a cluster of glands diseased, extending along the axillary artery under the clavicle. The great mischief of delay in these cases is, that the disease is extending along the axilla often much sooner than we expect. If the patient is not receiving any benefit, the operation should be recommended, in which we should not aim at removing the diseased portion only, but a large portion of the surrounding parts, as the contamination often extends much further than we expect; otherwise we may have a return of the disease. If the disease has advanced so far as the glands of the axilla, the operation is objected to; also when the tumor is no longer moveable on the pectoral muscle, or is firmly adhering to the cartilages of the ribs. It is a question with some, whether this disease is at all times entirely local; whether it does not frequently become constitutional; whether, by passing into the circulation, it does not contaminate other distant parts; but from the numerous instances I have seen of this disease, I have reason to believe that it never contaminates any parts except those which it can come at immediately, without being carried through the circulation: so far as the absorbent vessels pass, so far will the disease extend, and no further. The viscera become affected in consequence of some cancerous affections, as in the testes; but still this is in the course of absorption. This seems to be a poison which loses its effect as it gets into the circulation. When, then, the disease is perfectly circumscribed, and confined to the glandular substance of the breast, and there is no reason for suspecting particular adhesions and enlargements of the glands, the operation may be at all times advised, and that with the greatest probability of success. It is very

* Flores Martiales. — They are thus prepared:—"Take, of washed colcothar, or green vitriol, or of iron filings, 1 lb.; of sal ammoniac, 2 lbs.; mix them, and sublime them in a retort; and mixing the bottom again with the flowers, renew the sublimation till the flowers acquire a beautiful yellow colour."—*Rees' Ency.*—C.

simple, only dissecting out the diseased part; a larger knife than a common dissecting knife will be most convenient, as, having a broader surface, it cuts more at a time, and the operation is sooner finished. It is most conveniently done by placing the patient in a chair opposite the surgeon. Where much of the breast is not diseased, a simple circular or oval incision through the integuments will be sufficient. Generally, when the tumor becomes large, it adheres in some degree to the integuments, which, partaking of the disease, ought to be removed. In taking out the tumor a large portion of the surrounding adeps should be removed. If any lymphatic gland is found enlarged, it should be taken away if possible. Very frequently we find the surrounding adipose membrane has a harder feel than usual; in this case it is better to dissect away more of it, for it is probably owing to a diseased deposition taking place in the part.

When the whole of the diseased part is removed, the integuments may be brought together, and united by adhesive plaster. Very frequently some vessels are wounded, which should be secured by ligature, and that as early as possible. During the time of the operation the patient generally becomes faint, and has a languid circulation, which gives the extremities of the divided vessels an opportunity to contract. Some time after being put to bed, the circulation returning, the hæmorrhage is renewed, by the mouths of the vessels opening again. Tying the vessels may be either done with a needle and ligature, or by means of a tenaculum. We take a curved needle, include the extremity of the artery, and pass it through on one side, at a moderate distance; it is then to be brought back again on the opposite side; then making a knot on the part, this goes completely round and includes the artery. This is sometimes a very troublesome operation, for the arteries are often in such a situation that you cannot conveniently come at them; and the nerves are frequently so near, that, while you are securing the one, you are in much danger of wounding the other; on which account, and as giving less pain, many prefer the tenaculum, which is passed through the extremity of the vessel, and the ligature tied round it, without any needle being passed through the muscles or any of the contiguous parts. In the tenaculum there are certain disadvantages:—1. There is some danger of tearing the artery by passing the tenaculum through the vessel, and if so you have difficulty in recovering it again. Also, the ligature having no further hold than on the vessel, it is frequently slipping off. There have been instances of the femoral artery being very perfectly tied by means of a tenaculum, and the hæmorrhage has come on in a few hours after. Besides this, ulceration often goes through the coats of the vessels, on which account we are liable to have a return of the hæmorrhage; therefore I prefer the needle, except for small arteries situated in cellular membrane, and here the tenaculum, or forceps, may be used, It is not always necessary to pass the needle twice, as passing it once obliquely round small vessels may frequently be sufficient. The drawing out of the artery with a tenaculum is sometimes impracticable; in this case it is just as easily done with a needle, and more securely.

In taking up vessels the ligatures should always be broad, that they may not ulcerate through the parts quickly*. Supposing in this way the hæmorrhage is stopped, sticking plaster, &c. applied, the patient is very soon well. But not unfrequently after this operation, though it has apparently been done in the best manner, and with all probability of success, still you are interrupted by a return of the complaint. If this is entirely in a circumscribed part, the operation may be performed a second time, securing a greater number of the surrounding vessels. It may and has been performed a third time with success. Sometimes the appearance of a return of the disease is manifest long before the wound is well. From this a fungus will gradually arise, followed by a fœtid discharge. I have frequently known, where the whole breast has been removed, there has been a large granulating surface, going on healing, to the breadth of a shilling; an unhealthy appearance has arisen, with fungus, and the ulceration has proceeded to as great an extent as before the operation. In this case of incurable cancerous disease, whatever gives the most relief and ease is the best remedy. Opiates will be most proper, and the external application which I have found best is the carrot poultice, scraped fine and heated over the fire, which makes the wound easy, and the discharge less offensive. Under these circumstances, however, the disease goes on to be fatal.

Fistula lachrymalis.—This is a fistulous orifice, situated at the inner side of the orbit, which has a communication with the lachrymal sac, through which opening the tears are discharged; but the disease, which arises from an obstruction of the ductus ad nasum, has the name of fistula lachrymalis given to it long before a fis-

* This opinion is now exploded, and it is generally admitted that ligatures should be small in size and round in form. "Dentists' silk" is perhaps the best, as combining these properties with considerable strength.—G.

tulous orifice is formed. The first appearance of this disease is a little fulness at the inner side of the under eyelid, and the tears take a wrong course, passing down the cheek instead of going as usual into the nose. The lachrymal sac under such circumstances is distended, and constantly filled with tears, forming a small tumor in the eye; it will not receive any tears into the puncta, and the remainder pass over the cheek. This increased distension of the sac occasions inflammation, which produces adhesions of the parts, and the patient almost insensibly gets into the habit of pressing on the tumor, which gives some relief till it becomes again distended. There is a mixture of tears, mucus, and pus, which exudes from the puncta lachrymalia, on making pressure. After this has continued for some time, the skin covering the sac becomes inflamed, and soon ulcerates, which ulceration extends from the sac to the skin, making an opening externally, which no longer containing the tears, they pass down the cheek: this is the true fistula lachrymalis.

The cause of this disease is an obstruction of the ductus ad nasum, which being long continued, as happens frequently in scrofulous patients, gradually produces a thickening of the membrane, which remains after the disease has subsided. Sometimes, as in ulceration originating from venereal or other causes, venereal ulcers are forming in the nose, which may happen at the termination of the ductus ad nasum. In the same way it is sometimes produced by the small-pox pustules forming in the nose, which happening at the termination of the duct, will produce a small obliteration of the canal. Sometimes it occurs from a polypus forming at the part. From whatever cause the duct is obstructed, the effect will be the same. From this description of the disease it may be considered in three states:—First, Where there is a simple obstruction of the duct, which is only producing a distension of the sac. The second is, when it has extended to inflammation, as is ascertained from the discoloration of the skin; also from pus passing through the puncta lachrymalia when pressed upon. The third state is when ulceration has taken place, making an external opening, so that the tears, being no longer contained, pass down the cheek.

We shall now proceed to the treatment of the disease in these three different states. In the first stage an instrument for compressing the sac is recommended, to pass round the forehead, with a button to be placed on the sac, keeping it constantly pressed. I much doubt whether this instrument is attended with any advantage; it prevents an accumulation of tears within the lachrymal sac, and in that way may prevent inflammation taking place so soon; but not at all contributing to remove the cause, it will only protract the formation of the fistulous orifice. Some have proposed syringing the lachrymal sac for the purpose of removing the obstruction; and also, for abating the inflammation. Anel has contrived a very small syringe for the purpose, with an exceedingly small pipe, which he directs to be introduced into the puncta lachrymalia, and the sac syringed with some detergent fluid. Others have recommended a syringe with a curved pipe, to be introduced up the nose, and syringing in that way. This treatment may be considered rather as speculative than beneficial, and that by the puncta lachrymalia is not very practicable, for it is an extremely irritable part. The tunica conjunctiva is continued to the orifice of the puncta, which, when touched, produces considerable irritation and contraction of the eyelid. It might be more conveniently done by dropping a fluid into the eye; then closing the eyelids, having previously emptied the sac, it will get into the puncta very readily, and subsequently into the sac itself. To abate the inflammation fomentations have been frequently used, as taking in the steam of some warm fluid into the nose, which is applied in that way to the neighbouring parts. Some recommend sternutatory powders, but not with much advantage. If the inflammation arises from a venereal cause, which is sometimes the case, the use of mercurials will often remove it; but if from other causes, then the inflammation keeping up an obstruction to the tears, produces an accumulation in the sac. Sometimes the part cures itself by forming an opening through the skin, the tears thus flow out of the sac, and the distension is no longer continued. The inflammation of the sac being discontinued, the opening becomes again free, and the external orifice heals up. We therefore in many cases attempt this treatment chirurgically. When inflammation is taking place in the sac, it is advisable to make a small incision through the integuments, about half an inch in length into the sac, of an orbicular or semilunar form, that it may take the course of the muscle a little below the tendon of the orbicularis. The upper part of the sac is behind the tendon, but it is not necessary to open the sac throughout its whole length; therefore the wound of the tendon is unnecessary. This opening being made, a dossil of lint is to be laid into the sac to prevent its closing. The patient should be directed some hours before the operation not to make pressure on the part. Then a small bougie may be in-

troduced, and after a few days you can examine whether the ductus ad nasum is become sufficiently opened, when the external wound may be closed. But for the obstruction in the ductus ad nas m there will be a necessity for making an artificial opening into the nose, by perforating the *os unguis*. This may be done with a curved trocar, which should be directed inward, and a little obliquely downward, in which way the os turbinatum superius will be avoided, and the opening made between the two turbinated bones. An actual cautery has sometimes been used; this is an instrument not now found to be necessary; the orifice may be rendered completely fistulous without. The probe should be passed behind the nasal process of the os unguis, in which way you readily pass it, and you know whether the instrument has passed into the nose by some blood coming from the nostrils at the part. After this perforation is made through the os unguis, a piece of bougie, or some such substance, should be introduced into the nose, to prevent the external orifice from closing, and kept in for ten days or a fortnight, till suppuration takes place; then you may withdraw the tent, and close the external opening by adhesive plaster, bringing the sides of the wound in contact with each other. In these cases, where you cure the patient by making an opening through the skin externally, the cure is not radical, but only temporary; the disease is frequently returning, from time to time. I have known people plagued at times with this complaint for several years together. Mr. Warthen has introduced a mode of preventing the disease from returning, by introducing a canula of gold or silver into the duct, the canula being made a little larger at the upper part, to prevent it slipping down the nose. This has in many instances been successful; in others it has failed, and been very troublesome. Sometimes it has slipped into the nose. It is only practicable in those cases where you have the ductus ad nasum open; in all those cases where you have a diseased thickening of the membrane in consequence of inflammation, and not from the actual presence of existing inflammation, or in those cases where adhesions have taken place in the sides of the ductus ad nasum, you can only make a perforation into the sides of the nose. It has been common with some ancient surgeons (whom Mr. Pott justly reprobates) to treat the disease like other fistulous openings, by using escharotics to destroy the whole surface: by such the opening may be healed; but the tears very often take a wrong direction, passing over the cheeks instead of into the nose.

Couching, or the depression of the crystalline into the vitreous humor.—This operation is usually performed with a single instrument, the *couching needle*, generally of the shape of a myrtle leaf, flattened at the sides, and having two edges, which are gradually brought to a point. Some use a needle quite round. The needle is passed in at the outer part of the globe of the eye, about one-tenth of an inch behind the cornea transparens; in this way it passes through the opaque cornea, into the aqueous humour, then into the upper part of the crystalline: you place the flat part of the instrument over the cataract, (which you may know by some dots on the handle,) and press it down to the inferior part of the globe. The most convenient position for the patient is sitting in a chair opposite the surgeon. When the instrument is passed into the eye as far as the cataract you turn it. By looking at the pupil you at once discover whether you have depressed it, by observing the white speck below; and the patient is now immediately sensible of light coming to his eyes, and discovers objects. In doing this operation you are frequently embarrassed, which depends on two circumstances—one is, the adhesion of the capsule of the crystalline to the iris, which is an objection to the operation; another is, that of the cataract being in a fluid state; in which case, though you may very much disturb the humours of the eye, yet you have not such command over the lens as to remove it; but its being fluid is no objection to extraction, which may be done with equal success as when solid. Couching is certainly attended with more pain than extraction, the instrument passing through the choroid and retina, while in extraction, cutting through the cornea is no more painful than simple pressure of the globe. I have performed this operation on patients who have been twice couched, who affirmed the same on this point. Another inconvenience attending it is, that when you have performed the operation so as completely to depress the cataract, it often rises again, so that patients have had the operation repeated frequently. I have heard of this operation being performed five or six times on the same eye. It is attended with a good deal of inflammation, which so often repeated must greatly endanger the eye; it is sometimes so violent and goes to such an extent in the structure of the eye, so as to make an opening necessary for the discharge of the matter; consequently the structure of the eye must be destroyed. In this case we should guard against inflammation during the whole progress, with Aq. saturn.—Cataplasm. Pap. Alb. and local bleeding.

The operation ought only to be performed where both eyes are affected, as, if only one, the focal distance will be so different in each eye, as to render the inconvenience greater than before the operation.

Extraction of the cataract.—It is universally agreed that this disease never arises from films in the aqueous humour, but that it is an opacity in the crystalline lens which comes on gradually, till the lens is entirely opaque. Sometimes it is preceded by great pain; at other times, by none at all. The white speck in the pupil differs in different subjects, according to the degree of opacity which has taken place. Sometimes it is yellow, sometimes brown, and by degrees the whole of it becomes opaque; and at last the person is perfectly blind. Cataracts are of different colours; when they are white we call them milky, in which the crystalline humour seems to be dissolved, and when the needle is thrust into the eye, the fluid passes through the capsule and escapes. In this case the most likely manner of curing the disease is by extraction. The patient should be placed opposite to you in a lower chair than yourself; you rest your elbow on your knee, with the two last fingers on the temples of the patient; if the left eye, you use the right hand, and *vice versâ*. The knife is to be introduced on the outer side, a little before the edge of the iris, then carried directly across to the opposite side, where it is to be brought out, and then carried down, making a semicircular flap; the eyelids are to be let go, and the patient suffered to rest till the eye is steady. The hook is then to be introduced, and turned towards the capsule of the crystalline, which is to be scratched; next the instrument is turned down, and brought out, and with a very slight pressure the crystalline lens will escape. This operation requires a great deal of nicety; but, when properly performed, is more successful than couching. One great difficulty in performing it is, that of steadying the eye. A variety of specula have been formed for keeping the eye fixed; but none, I think, can be trusted to; they all make pressure on the globe, which endangers the escape of the vitreous humour. We are therefore under the necessity of trusting to the resolution of the patient: if this be not sufficient, you must wait till you have a convenient opportunity of introducing the instrument. When introduced, the eye may have some motion, when you must desist till the patient brings the eye outwards, which he will do at last for his own ease. The incision should be made with the greatest steadiness, or you will not have a good cicatrix, or the iris may be injured, or by making too much pressure on the globe with the instrument, part of the vitreous humour may escape. When the cataract is fluid, perhaps part may come away, and part remain behind; more pressure is to be used for removing the remainder. If it cannot be done in that way, a scoop should be introduced to produce the effect.

After the operation, every thing should be removed that would tend to bring on inflammation. The patient should be placed on his back, with his head elevated, and topical applications should be used.

It is common for authors to speak of the ripeness of cataracts, by which they mean that cataracts are of a different consistence, and that it is or is not arrived at a proper consistence for extraction. If there should be any considerable degree of adhesion in the iris, we should not perform the operation. We may ascertain this by placing the patient before a window, first shutting, then suddenly opening the eyelids;—if there is any motion, there can be no considerable adhesion. Nor should the operation be performed if there is any considerable opacity of the cornea. When the iris adheres, the pupil does not contract equally, but irregularly. Some surgeons say this can make no objection, but I cannot agree with them. If it adheres in a slight degree only, the operation may be attempted; but if the adhesion is general, it cannot be done without tearing the iris; consequently the red blood will be thrown on the aqueous humour, and render it turbid; hence the patient will become blind, and perhaps be troubled with violent headaches during life. The laceration of the iris would bring on inflammation, and perhaps suppuration. Likewise the operation should not be performed where the patient has no sense of light—cannot distinguish night from day; which shews that the optic nerve is the immediate organ affected; for when blindness arises from an opacity in the crystalline humour, the patient can distinguish night and day, and knows when he comes near any luminous body. The operation should not be recommended when only one eye is affected, as the inconvenience is very trifling, and persons have been known to labour under cataract without being sensible of it, and we cannot be sure of inflammation not arising in the other eye, as there is a communication of the optic nerves within the cranium, which may affect the sound eye. Previous to the operation, and to avoid any bad consequences, the patient should be prepared for a week on low diet; and if plethoric, venesection, and a few doses of physic, should be premised. Some time after the cataract has been removed, the opacity still remains, which

depends on the capsule being thickened. The capsule of the crystalline may be absorbed, which I believe generally does take place after the crystalline is removed *, it being appropriated to the containing it; therefore, like many other unnecessary parts, it is removed, as the alveolar processes, thymus gland, &c. Since having performed this operation, I have met with it in several instances. In some, the opacity has come on after the operation; this, it is very easy to conceive, results from the laceration which takes place of the capsule: it becomes inflamed, and produces opacity, but which at length disappears. I have met with one or two cases where the opacity came on after the operation. In one, it has remained ever since the operation, as far as I know, the person having since gone to the West Indies. After the operation, every attention should be paid to the abatement of the inflammation by proper evacuations, such as leeches to the temples or towards the inner canthus, and letting blood freely when the eye becomes painful. Every now and then the pain is but inconsiderable, when aq. veget. min. will be sufficient to abate the inflammation. In about three weeks they generally begin to have a little use in the eye. Sometimes we find that the pupil is altered in its figure after the operation is performed. When you have punctured the capsule, the pupil generally contracts: in getting out the cataract, some laceration is produced, and an oval-formed pupil is the consequence. However, where I have met with this no inconvenience has followed. I have seen two instances where the pupil was oval before the operation. One was in a young lady about 18, who had cataracts from about ten years of age. It was remarkable that her father had cataracts when a young man, in whom was the same formed pupil; and she had a sister of about the same age, who became blind. In one of her eyes couching had been successfully performed twice; the other eye was pronounced unfit for the operation. I was consulted, and on examining the eye with a good deal of care, could find no other defect than the cataract. I performed the operation, and with success. In this she told me that the attempts at depression produced much more pain than the extraction. This cataract seemed to me broken in pieces. Sometimes after the operation has been performed the pupil becomes contracted, of which I have seen one instance in a patient where I performed on both eyes, so that scarcely any aperture was left, and there was opacity in one eye. What could be the reason of this *, I cannot say. In the other eye she remains perfectly well.

*Cutting or perforating the iris.**—Now and then the pupil becomes contracted, and its cavity obliterated — the patient, of course, blind. Mr. Cheselden was the first who described an operation for the relief of this complaint, performed with a knife, which he directs to be introduced into the cornea, the point directed to the middle of the iris, which is to be opened for a considerable extent, to give room for the rays of light to pass to the retina. He performed this operation twice, with success as he thought, but it proved otherwise. Mr. Sharpe mentions this operation having been once performed with tolerable success. Probably there is some diseased disposition going on, and little to be expected from the operation; but the patient being quite blind, and it giving little pain, it may be right to try it.

Removal of the eye.—Sometimes the eye is in so cancerous a state as to require entire removal; occasionally it is altered entirely; there seems to be opacity, apparently as if the vitreous humour was changed*. This is a disease which is not very unfrequent, and the brain itself seems to partake of the diseased affection. In cases of this kind the operation is attended with extreme pain. If the eyelids are in a sound state, it is better to preserve them. On account of the situation of the eye they should be separated at the angles; this gives sufficient room to carry the knife round the globe, dissecting it entirely from the orbit, which is attended with great pain, on account of the nerves situated among the muscles, besides which, cutting through the optic nerve gives severe pain. There is generally a profuse hæmorrhage. This operation has in some instances been successful; while in others, where the eye has been removed, and the

* Mr. Lawrence, and other eminent surgeons, differ in opinion with Mr. Cline on this point, considering that the capsule is not absorbed.—C.

* This contraction of the pupil is ascribed to iritis, and an adventitious membrane is sometimes the consequence.—C.

† By this is meant the formation of an artificial pupil—an operation which was in its infancy at the time these lectures were delivered. In reference to this subject, Mr. Lawrence (in his work on the Diseases of the Eye) makes the following observation:—"Although the first attempts of this kind were made in the earlier part of the last century, the operation was not much practised towards its very close; since which period so much attention has been paid to it, so many persons have investigated and attempted to improve it, that the methods of proceeding, and the instrumental apparatus, are perhaps more diversified than in any other surgical operation."—C.

‡ Probably fungus hæmatodes is here alluded to, which, in the first stage of the affection, exhibits a deep-seated discoloration at the posterior part of the eye.—C.

part put on a healthy disposition for some time, the wounds have changed, and put on an unhealthy cancerous appearance. This is a simple operation: all that is necessary is, merely carrying the knife round the eye, dissecting it out, with the cellular membrane adhering.

CLINICAL LECTURE

ON

DISEASES OF THE HIP-JOINT,

Delivered at St. George's Hospital,

By Sir Benjamin C. Brodie, Bart.

Lecture II.

There are two important circumstances in the history of the scrofulous disease of the hip, which I neglected to notice. One is, the shrunk flattened appearance of the nates. This appearance is not, in fact, an absolute diagnostic mark of disease in the hip-joint, though it does usually accompany it. It arises simply from the wasting of the muscles. If you tie up one arm the muscles will waste; if it be painful to use the knee, and it be not employed, the muscles of the thigh waste; if it be painful to use the ankle, the muscles of the leg waste; if it be painful to use the hip, the muscles of the hip waste; and the largest muscles of the hip are those situated posteriorly, the glutæi. These are the muscles of which the wasting is most perceptible, and thus you will understand the reason of the altered form of the nates. This flattened appearance of the nates may occur, not only in cases of diseased hip, but wherever there is any thing which prevents the hip joint from being moved; as, for instance, in that paralytic affection to which young children are liable. I have known a painful tumor in the groin, and disease in the thigh-bone, produce the same effect, although the hip-joint was perfectly sound.

In some cases there is an alteration in the appearance of the nates from another cause. If the acetabulum be filled up with lymph, the head of the thigh-bone must be pushed more or less out of the socket, and this being the case, the great trochanter must project farther on the side of the disease than on the other, so that the nates become actually widened. Then, again, if the head of the thigh-bone be quite pushed out of the socket, and lodged on the dorsum of the ilium, the appearance of the nates must be different to what is natural. The great trochanter is prominent behind, and the head of the thigh-bone may be felt or even seen through the wasted glutei muscles lying on the dorsum of the ilium.

Another of the symptoms of this disease is an apparent elongation of the limb. In the advanced stage of the disease the limb is always shortened; and I have explained to you how that occurs. But in the early stage of the disease there is sometimes the appearance of elongation, and there may, indeed, be some absolute elongation, though it cannot be much; for if you look at the skeleton you will see that the acetabulum looks a little downward, but more outward. If the acetabulum be filled with lymph or matter, and the head of the thigh-bone be pushed out, this must be in the direction outwards rather than downwards. The absolute elongation of the limb can never amount to more than half an inch, yet it appears sometimes to be elongated to the extent of two inches. This arises from the distorted condition of the pelvis. It makes with the spine an obtuse angle on the side of the disease, and of course an acute angle on the other side. The tuberosity of the ischium is lower on that side than on the other. Observe the position in which the patient places himself when he stands. In order to save the diseased hip from supporting the weight of the body, as much as possible, he throws his principal weight on the foot of the sound limb, while he advances the other foot merely to steady himself. But this cannot be accomplished without the tuberosity of the ischium being a little depressed. The apparent elongation of the limb often vanishes when the patient has been some time in bed. Occasionally I have seen an apparent shortening of the limb, without a real shortening, produced by the pelvis being twisted in an opposite direction.

In order to know whether a limb is shortened or elongated, it is not sufficient to look at a patient as he lies in bed. You must lay him flat on his back, and take care to place the two limbs parallel to each other, so that a line which passes from the patient's chin straight over the navel and the symphysis pubis, should go exactly between the knees. When you have placed him in this position, the two thighs making exactly the same angle with the pelvis, you measure with a tape from the anterior superior spinous process of the ilium to the patella. It is only by this method that you can acquire a knowledge of the comparative length of the two limbs. If you trust to your eye, and not to the measurement with a tape, you will be continually deceived.

Primary Ulceration of the Cartilages.

I give this name especially to a class of cases in which ulceration of the cartilages takes place in a different way from either of those already described. The disease begins

in the harder textures; but it is not preceded by that soft or scrofulous condition of the bones which I then described. The first thing that you observe, if you happen to have the opportunity (as I have had many times) of examining the body after death, where the patient has died in the early stage of the disease, is a destruction of the cartilage by ulceration. Here is a very fine specimen [presenting it] of what I now mention. Looking at it, you will see that the synovial membrane and the ligaments are in a natural condition; that the cartilage is absorbed from a considerable portion of the acetabulum in two spots; and that the cartilage covering the head of the bone has not its natural structure, but is converted into a sort of fibrous substance. The soft parts are in a natural condition, and also the bones. The latter are perfectly hard, having none of the scrofulous alteration which I mentioned in the last lecture. There are other specimens on the table, shewing similar appearances.

Now this ulceration of the cartilage I believe to begin in different ways: sometimes in the cartilage itself, which becomes converted into a fibrous substance first, and that fibrous substance becoming ulcerated afterwards. Here is a specimen, in which you perceive the disease in these two different stages; for while the cartilage of the head of the femur is converted into a fibrous substance, that of the acetabulum is completely absorbed. Here is another preparation [shewing it], where the cartilage is converted into a fibrous substance, actual ulceration not having as yet taken place. There was a body in the dissecting-room, in which many joints were affected in this manner. In some the cartilage was converted into a fibrous substance; in others it was ulcerated away, and the carious surface of the bone exposed. In some joints the disease had gone to a greater extent than in others. Here is a preparation of two patellæ, where you see ulceration of the cartilage going on. In one the cartilage is merely converted into a fibrous substance; in the other it is completely destroyed by ulceration.

Then I have reason to believe that in other cases the disease originates not so much in the cartilage itself as on the surface of the bone to which it is connected, and that it corresponds to what happens in cases of periosteal nodes. In syphilitic, mercurial, and some other nodes, you know that the first thing that calls your attention is often the thickening of the periosteum. But the fact is, that there is a previous alteration in the condition of the bone, which becomes inflamed and ulcerated under the periosteum, and then the thickening of the periosteum is consequent upon the disease on the surface of the bone. The bone is more vascular and of a darker colour than healthy bone, and you may peel the cartilage off its surface. In this specimen you perceive that the surface of the bone is of a dark colour, and that the ulceration began on the surface of the cartilage which is towards the bone.

In practice I do not pretend to distinguish these two orders of cases from one another, any more than I can in practice distinguish those cases in which nodes are the consequence of disease beginning in the periosteum, and other nodes which are the consequence of disease commencing in the bones.

Ulceration of the cartilage, beginning with the conversion of it in the first instance into fibrous structure, is one of the diseases of joints to which persons are liable in old age. I have seen a person, 60 years of age, have disease and abscess in the hip-joint in consequence of this kind of ulceration in the cartilage. Ulceration of the cartilage sometimes takes place as a consequence of rheumatic affection. A patient, for example, came into the hospital who had been exposed to damp and cold. He had pains in the whole of the lower limbs, and in one shoulder. The man died from some other complaint—I believe from an attack of fever—and I examined the body. There was no affection of the soft parts, no disease in the bones any where, but in the right hip the cartilages were ulcerated to a great extent. There was pain in the other parts of the limb, but no ulceration of the cartilages any where else. There was pain in the opposite shoulder, but there were no morbid appearances in it when it was examined. I have seen several other cases where ulceration of the cartilage has been preceded by pain similar to that from rheumatism, but without any affection of the soft parts.

Ulceration of the cartilage sometimes takes place in a very remarkable manner, as a consequence of inflammation and abscess in the neighbouring parts. Of this I have met with many examples. Here is a case [presenting a specimen] in which the cartilages of the knee-joint are extensively ulcerated, but there is no disease in the softer textures—no matter in the joint. It was taken from a boy who had had compound fracture of the femur, and an enormous abscess in the thigh, contiguous to the knee-joint, had preceded death. I have seen several other cases where a large abscess in the neighbourhood of a joint has been followed by ulceration of the cartilages to a great extent. Mr. Mayo has published some cases of the same description.

In those cases in which the cartilages are ulcerated independently of the scrofulous disease of the bones, the progress of the complaint after the ulceration has taken place must be very similar to the progress of it in those other cases which I described in the concluding part of the last lecture. Pus is thrown out into the joint, and then the soft parts are affected, or the acetabulum being filled with lymph, the head of the thigh-bone is pushed more or less out of the socket: the ulceration of the cartilage extends, the bones become destroyed, the head of the thigh-bone is diminished in size, the margin of the acetabulum is more or less destroyed, the neck of the thigh-bone is drawn up and lodged on the dorsum of the ilium; and in other cases the head of the femur is pushed out of the socket, and there is dislocation. But I need not trouble you with a complete history of the symptoms, which I described in the last lecture. You have, in fact, almost all the symptoms which I mentioned as occurring in cases of scrofulous disease of the bone.

But how are you to distinguish these cases in practice? You cannot distinguish them in all instances, but you may do so in most cases so as to make a diagnosis which will be very useful in practice.

In the first place you will judge something by the aspect of the patient's countenance. If he is not that kind of person whom you would judge to be predisposed to what is called scrofula, it would be a reason for suspecting that it is not a case of strumous affection of the bone. Such affection of the bone almost invariably occurs in early life, and there may be ulceration of the cartilages, independent of scrofulous disease of the bone, in early life also. But the latter may occur in advanced life as well; and if the patient be above 25 years of age, it is more likely that he will have simple ulceration of the cartilage, than the true scrofulous disease. Another important diagnostic mark is this:—A much greater amount of pain attends the disease in its early stage, in cases of simple ulceration of the cartilage, than where the ulceration is combined with scrofulous disease of the bone. One most remarkable circumstance connected with scrofulous disease of the bone is, that there is so little pain in the first instance, the patient going on for weeks, and even months, limping, and yet the disease being scarcely noticed. But in simple ulceration there is generally severe pain at an early period. In scrofulous disease of the bone you have very little pain in general, till the cartilages are extensively ulcerated, and matter begins to form, but in the other cases there is a great deal of pain long before that period has arrived.

I have given you my notions of ulceration of the cartilages, but I should tell you that other pathologists have entertained different views respecting the functions of the cartilage, and its capability of being ulcerated. Among these pathologists I may mention especially Cruveilhier in Paris, and my friend Mr. Key, in this country; both of whom seem to regard the cartilages as being not vascular, and as incapable of ulceration, from the action of vessels belonging to itself. Mr. Key has indeed published a paper to shew that ulceration of the cartilage is the consequence in general of disease of the synovial membrane. He describes vascular processes of the synovial membrane as projecting into the joint, filling it up, and then, as it were, eating away the cartilage.

Now I do believe that if these gentlemen had taken as much pains as I have done to examine the bodies of patients who have died in the *early* stage of these diseases, they would have come to a different conclusion. They seem to have examined the bodies of persons when the disease was in a late stage, and when the morbid appearances were deceptive. The first question is, are the cartilages vascular or are they not? The cartilages of children are undoubtedly vascular—nobody can hesitate to admit that—till the period of growth is over. Growth could not take place otherwise. If you cut the articular cartilage of a growing child you see the vessels, or rather the sinuses, in which the blood flows very distinctly. The cartilages of children resemble the cartilages of adults in all essential circumstances. Some changes take place, as I shall mention presently, but still in all essential circumstances they resemble each other. Merely looking at the structure, you would say that if the cartilages of children are vascular, those of adults are vascular also. You see in this preparation, and in others taken from adult subjects, the alteration of cartilage into a fibrous structure; and how could such a morbid alteration of structure take place, if the part were not organized?

The epidermis, or cuticle, is not organized. You may have bad cuticle secreted; but being once secreted, it does not become altered in quality. The nails and the hair are not organized; you may have bad hair and bad nails secreted, but these being once formed, they do not alter. But this preparation [exhibiting it] and a number of others, shew that the cartilage does alter. It seems to me that this single specimen which I now hold in my hand is quite suf-

ficient to prove the organization of the cartilage. Look at the two patellæ in this preparation; the cartilage in one of them is clearly undergoing a change of structure, while in the other it is entirely destroyed by ulceration. How can this be accounted for, except upon the supposition that the cartilage is organized? Then observe what happens to cartilage in its healthy state; how it is exposed to friction, and if there were not a power in cartilage of regeneration, how could it bear the quantity of friction to which it is exposed during life? Take the example of a wild animal, with its limbs in constant motion, the cartilage constantly exposed to friction, except during the hours of sleep, yet all this produces no change in it. But if there were anything else there, an elastic substance, such as caoutchouc, or the hardest metal, as gold or platina, would it not be worn away? The living body is subject to the same mechanical laws as dead matter. The fingers of a mechanic would be worn out if their organization did not enable them to repair the loss occasioned by the destructive power of friction. Are not the articular cartilages placed under the same circumstances? How can you explain their durability, except by supposing them to be endowed with vital powers and organization?

You cannot see blood-vessels in the healthy cartilage of an adult; but does that prove that vessels in it do not exist? You cannot see vessels in the transparent cornea, but who doubts its vascularity?

Besides what I have already mentioned, it would be easy to indicate many other changes in cartilage which must be referred to organization and vascularity. The cartilage of a young man and the cartilage of an old one differs in many respects. There is difference of colour, of thickness, and consistence, sufficiently marked, which cannot be the effect of friction, which can only be attributed to a change taking place in the cartilage itself.

I have already adverted to the analogy between the cornea of the eye and the articular cartilages. But it may be said that in the cornea you have the proof of its being endowed with vessels, in its liability to inflammation; and it is quite true that in long-continued ophthalmia you may see the blood-vessels running into the substance of the cornea, injected with blood. But you may see just the same thing in the cartilages of the joints. I have observed it distinctly in many instances. Two or three instances of this are recorded in my work on Diseases of the Joints. A man, for example, had that scrofulous disease of the ankle which I described in my last lecture. The cartilage in some parts was ulcerated, in others it was beginning to ulcerate. Where it was beginning to ulcerate there were red spots, into which I could distinctly trace blood-vessels shooting from the neighbouring bone, exactly corresponding to the blood-vessels which shoot into the transparent cornea in cases of ophthalmia. Mr. Mayo has described a case of the same kind, and I believe that in the Museum of King's College the specimen which he met with is preserved, and that the vessels running into the cartilage are seen injected with size and vermilion. Now taking all these things into consideration, I really know not how we can refuse our assent to these propositions; first that cartilage is organized, and secondly that cartilage, like other parts which are organized and possessed of vital properties, is capable of ulceration.

To illustrate the subject still further:— In the subject from which this drawing was taken, there was an extensive absorption of the cartilages of some of the tarsal bones, the os calcis, the os naviculare, and astragalus. Now observe how the absorption has taken place. In some parts the cartilage has disappeared altogether, and the bony surface is exposed. In other parts the cartilage is partially absorbed; it is rendered thin and semitransparent, so that you can see the brown colour of the bone through it; and the absorption has taken place *on that surface of the cartilage which is towards the articular cavity, while the layer towards the bone remains entire, and retains its natural adhesion to it:* a fact quite incompatible with the notion of its being absorbed by the vessels of the bone to which it adheres. There was no disease of the soft parts.

The preparation which I now shew you is of great interest; and in order that you should understand its relation to the present inquiry, I must briefly explain the patient's case.

There was a compound fracture of the thigh, and a portion of the femur was sawn off, for not till then could the fracture be reduced. An immense abscess formed in the thigh, near the knee-joint, but not communicating with it. The boy sunk and died, and on examining the body we found the large collection of matter which I mentioned in the thigh. The knee-joint externally presented no indication of disease; there was nothing the matter with the synovial membrane or the ligaments, no effusion of pus, or serum, or lymph, in the joint. All that we could discover was the disappearance of the cartilage. Now observe how it has disappeared. In the centre the cartilage is altogether absorbed, and the bone exposed. Then, in some parts, the

cartilage is partially absorbed; the surface of it towards the cavity of the joint having been taken away, while that which is next to the bone remains entire, and has its natural adhesion to it. You will see the cartilage in some parts putting on a peculiar grooved appearance, as if you had dug out a piece of it with a chisel. How could the cartilage be absorbed in this case, except from the action of its own vessels?

Mr. Key, in his interesting paper on Ulceration of the Cartilage, has given a drawing of the knee-joint, where the cartilage was affected in this manner—that is, partially absorbed on the surface towards the articular cavity; and this was in a case where the original disease had been inflammation of the synovial membrane. Large processes of inflamed synovial membrane are seen hanging pendulous into the joint, and he supposes that these pendulous processes of the synovial membrane came in contact with the different parts of the cartilage, and were the agents through which the absorption of the latter had taken place.

Without entering into the question as to how far this explanation is correct, as applied to this particular case, I may observe that it certainly is not applicable to the cases of which I have just given you the history, any more than it is to the cases of ulceration of the cartilage published by Mr. Mayo in the Medico-Chirurgical Transactions; in none of which these pendulous excrescences of the synovial membrane existed.

At the conclusion of this investigation, you will ask "what becomes of a joint of which the cartilage has been destroyed by ulceration?" If it be extensively destroyed without suppuration, the case may be compared to one of simple fracture; and if there be suppuration, it may be compared to one of compound fracture: and in either instance the ulcerated surfaces of the bone come together and ultimately become united. Bony anchylosis, however, takes place very slowly in the scrofulous disease which I described in the last lecture; the bond of union being for a very long time nothing but a soft ligamentous substance. But in other cases, where the cartilage is ulcerated without scrofulous disease of the bone, bony anchylosis takes place, I believe, readily enough. There may, however, be absorption of cartilage to a considerable extent, without it being followed by bony anchylosis. I shewed you, in the last lecture, a drawing where the cartilage had been ulcerated in several parts of the patella and condyles of the femur, in consequence of inflammation of the synovial membrane. The patient died a year afterwards, from disease of the chest; and on examining the body after death, I found that where the cartilage had been absorbed, it was replaced by a sort of ligamentous membrane. You will see the same thing in this preparation, where the cartilages of the hip have been partially absorbed, and replaced by a dense membrane. I cannot say whether this substance ever is or is not converted into true cartilage; perhaps it may be; but you know how difficult it must be to acquire any thing like satisfactory evidence on this point.

Treatment of Diseases of the Hip.

If you could *always* be exactly certain as to the nature of the disease in the hip-joint, of course you would be able to apply your remedies more precisely than you can with that sort of doubtful diagnosis which we are compelled to make in some cases. The diagnosis of diseases of the hip is more difficult than the diagnosis of the same diseases in other joints, simply for this reason, that the hip is not a superficial joint, but is covered by a great mass of muscle, and you cannot examine it with the hand as you can the knee, the elbow, or the wrist. We are necessarily compelled to depend more upon the history which the patient gives of the disease than when the other joints are affected. This history, going back as it often does to a long period, and in a great number of instances having to be drawn from very young persons, is often not much to be depended upon. There are, however, many cases of disease of the hip in which we are able to say at once what kind of disease exists in it; there are others where we must give a more doubtful opinion; but even here a careful investigation will generally enable us to make such a diagnosis as will be sufficient to lay a tolerable foundation for our practice.

There is one remedy which is applicable to all cases of disease of the hip, and this happens in all of them to be the most important part of the treatment, at least of the local treatment; and of this I shall speak first.

If your leg were inflamed, and you were to rub it a dozen times every day, would you not make the inflammation worse? If your leg were ulcerated, and you were to rub it in the same manner, would you not prevent the ulcer from healing? nay, rather, would you not make the ulcer spread? If the hip-joint, then, be inflamed, and you move it several times a day, will not the inflammation be kept up? If the cartilages or bones, or both, are ulcerated, and the joint be moved, and the ulcerated surfaces are rubbed against each other, is it not to be expected that the disease will be aggravated? Have we not a right, under all circumstances, to

expect that motion or exercise of the hip-joint will tend to aggravate the disease, whatever it may be; and that the keeping of the joint in a state of perfect repose will be a most important part of the treatment to be employed. In all cases of affection of the hip-joint, without inquiring into the nature of the disease, the first thing that you have to do is to keep the joint in a state of perfect repose. This may be accomplished in different ways. In one of the cases now in the hospital a quantity of bandage was rolled upon the pelvis and the upper part of the thigh; then stripes of adhesive plaster were put over the bandage; then other bandages were applied, and other stripes of plaster; and so on till a great mass of bandage and plaster, all sticking together, was fastened round the pelvis and round the upper part of the thigh. This has fixed the boy's hip-joint very firmly, and is very nearly the method which Mr. Scott, of Bromley, employs for all diseases of the joints. He, indeed, uses mercurial ointment spread on lint under the plasters; but this, I apprehend, to be perfectly unnecessary. The good which he attributes in diseased hips to the ointment, I attribute altogether to the support afforded by the plaster and bandage, forming a kind of splint, and limiting the motion of the joint. This method, in the case up stairs, and in a number of others, is productive of very good results. But a still better method than this, in the majority of cases, is that of applying a splint adapted to the hip-joint, thigh, and pelvis, such as are used for the knee and elbow, made of a very thick, hard, firm, strong leather, prepared without oil or other grease. This leather is prepared for the purpose, of cow's hide; and the consequence is, that on putting it into water a little below boiling heat, it becomes as soft as wet brown paper, and you may cut it out to any shape you please, and mould it to the hip, securing it afterwards by a bandage, and leaving it to dry on. This splint cannot fail to fit the joint, and must therefore be easy to be worn. Altogether it answers the purpose very well when the thigh is not much bent on the pelvis. Where, however, this is the case, it is very difficult to adjust the splint, and the plasters and bandages which I mentioned just now are preferable. There is still another method of fixing and supporting a diseased hip, which you will see carried into effect in one of the patients up stairs. The lad is placed on Mr. Earle's fracture or invalid bedstead. He lies there on his back; the shoulders are raised by one inclined plane, the thighs are raised by another, and the legs are supported by a third; so that he lies on three inclined planes, and cannot slip upwards or downwards. The thigh is kept at that angle which is most convenient to the patient, and the two limbs are placed parallel to each other. Lying in this manner, the patient, you perceive, has very little motion; he can scarcely manage to turn, and has no inducement to attempt it. In this bedstead there is a sort of trap-door beneath, filled up with a cushion, which may be taken out when necessary, and which answers the purpose of a bed-pan, so that the patient has his evacuations without being in the smallest degree disturbed. This method is especially applicable to those who have passed the age of childhood, and in whom the disease is still in its most early stage.

It is of some moment that you should, before the disease is very far advanced, get the limb into a good position. A child especially has always a tendency to throw one knee over the other, and to lie on one side. The consequence is, that the thigh-bone gets twisted into an awkward posture, the pelvis and the spine are also twisted, and the whole figure is in a state of distortion. It matters not how trifling the disease may be, your first duty to your patient is to make him lie down at once. Take care to place him with his shoulders a little elevated, and his limbs parallel to each other, and thus you will prevent that ugly distortion of the whole body which always takes place where these precautions are neglected.

NATURE AND TREATMENT OF DELIRIUM.

By M. B. Gallway, Esq.
Assistant-Surgeon Royal Artillery, Woolwich.

[Concluded from p. 49.]

Notwithstanding all the evidence I have adduced to disprove the existence of a distinct and primary action within the head itself, as the exciting cause of the delirium in the form of disease under our notice, I am obliged to admit the very remarkable and embarrassing resemblance that exists between many of the symptoms which attend the inflammatory, and opposite, or asthenic, condition of the brain.

"Some of the more obvious and striking effects of loss of blood," says Dr. Marshall Hall, in his treatise on the Morbid Effects of Loss of Blood, "or those of reaction, are such as to suggest the idea of increased action in

some system, and of increased action in some of its organs, and to lead to an erroneous and dangerous employment or repetition of the lancet, when a directly opposite mode of treatment is required; while the state of actual but protracted sinking frequently resembles a state of oppression of the brain, or of congestion of the lungs, so accurately, as to prompt the unwary practitioner to a still more suddenly fatal use of the lancet."

"The result of this treatment," adds the same author, "is in itself again apt further to mislead us; for all the previous symptoms are promptly and completely relieved; and this relief, in its turn, again suggests the renewed use of the lancet."

In excessive arterial action within the head, we find, as prominent symptoms of that condition, throbbing of the carotid and temporal arteries, great intolerance of light, as well as of noise and disturbance of every kind; continued watchfulness and restlessness; rapid and suspirious breathing; and the pulse, though generally round and tense, in some urgent cases is soft, irregular, or intermitting.

Let us now turn to the symptoms of an opposite condition of the brain—exhaustion from loss of blood; and I cannot do better, I think, than quote from one of the many such cases detailed by Dr. Marshall Hall, in his treatise on Blood-letting:—

Mrs. ——, having been frequently and largely depleted for an inflammation of the os uteri, consequent on parturition, was suddenly affected "with extreme pain of the head, violent throbbing of the temples, slight delirium and sickness, intolerance of light and sound, feverishness, and a frequent strong pulse." This patient craved for brandy, and, being allowed it, was obviously relieved, and ultimately rescued from her dangerous condition, by the further use of cordials, a mild diet, quietude, &c.

There are many such cases to be found in the work I have alluded to, but for brevity's sake I have deemed it expedient to extract one that did not involve a very long history, though very few offer more striking confirmation of the phenomena it is meant to instance.

As Dr. Marshall Hall describes them, such cases are attended with "beating of the temples, and a throbbing pain of the head; morbid augmentation of the energies and sensibilities of the brain; intolerance of light, and still more frequently of noise; sometimes slight, occasionally even continued delirium. The action of the heart and arteries is morbidly increased, and there are great palpitation and visible throbbings of the carotids; the patient is often greatly alarmed, and impressed with the feeling of approaching dissolution; the pulse varies from 100 to 120 or 130, and is attended with a forcible jerk or bounding of the artery. The respiration frequent and hurried; the skin sometimes hot; and there are frequently general hurry and restlessness."

Dr. Marshall, Hall in another place, makes these few but impressive remarks, all bearing on the point at issue:—"The symptoms of exhaustion with reaction have, I am persuaded, frequently been mistaken for those of inflammation or other disease of the head or of the heart. Under this impression recourse has frequently been had to the further detraction of blood by the lancet; and the effect of this practice is such as greatly to impose upon the inexperienced, for all the symptoms are perhaps greatly relieved."

The very frequent and often jerking pulse attendant upon diseases of exhaustion, is well accounted for in the following words of Dr. Philip Wilson, taken from his essay on the Nature of Fever:—

"It is not difficult to perceive the final cause of the beats of the heart generally becoming more frequent when they are enfeebled; for the feeble systole not propelling the same quantity of blood, or not propelling it with the same velocity, a more frequent systole becomes necessary in order to support a due vigour of circulation."

The very interesting and extensive nature of this latter consideration, viz. the close resemblance between the symptoms of plethora and anæmia of the brain, may appear to have drawn me into too long a digression from my more immediate subject—delirium; but I think they will not be deemed misplaced, when it is remembered that a principal feature in this paper, from the beginning, has been to account for the occurrence of delirium, in very many cases, on the presence of a condition

of the brain opposed to that of excitement.

Having disposed of the form of delirium peculiar to adynamic or typhoid affections, I am anxious to say a word on another remarkable and not very frequent variety of it, inasmuch as it has lately occurred to me to witness a striking instance of the same.

I was sent for by Lord C., to attend a groom, who was represented to me as being in a state of madness consequent upon a fall on the head. I found him in a state of furious delirium, requiring the assistance of four or five people to keep him down in his bed. From the violence of his struggles it was with much difficulty that I was able to examine his pulse and general condition. I found, however, the former scarcely accelerated, and in character soft and compressible. His features, too, did not indicate the presence of determination to the head. I learnt, on inquiry, that this man had met with a fall on the head a week prior to the invasion of his present symptoms, but that no ill consequence had ensued, and he had been able to pursue his usual avocations up to the day on which I saw him. That, on a sudden, without forewarning, he had been seized in the manner I found him in, and had been perfectly rational a few minutes prior to the attack of delirium. I made a careful examination of the head, but could detect no inequality in the surface of the cranium; nor, indeed, was it to be anticipated, from the previous absence of cerebral symptoms.

I have seldom felt more at a loss to act with decision than in the present instance—whether, in fact, the condition of this man required a copious blood-letting, or a tea-spoonful of laudanum? The circumstance of the long interval that often elapses between an injury inflicted on the head and the invasion of phrenitis, seemed to favour the adoption of the former; whilst the suddenness of the attack, and the absence of the usual symptoms denoting an inflammatory state of the brain, went far to incline my belief in the necessity of the latter.

A strait-waistcoat, however, being necessary, in order that his head might be shorn and his own personal safety provided for, I directed that this measure might be at once carried into effect, when I would return and examine the case more attentively.

Scarcely more than half an hour had elapsed, when, on my return to the patient, I was informed he had expired a few minutes before. A practitioner, whom I met in attendance on this case, had deemed it expedient, shortly after my departure, to bleed him; and I understood that he bore the depletion well; but he sank shortly afterwards, exhausted by the continued and violent struggles he had made from the commencement of the attack.

What was the condition of the brain giving rise to the delirium in the preceding case? It may not be easy to answer this question satisfactorily; but I very much incline to the opinion, that it was not one of inflammation! And I think, moreover, that I should not hesitate, were I to meet again with a similar case, to exhibit a large dose of opium for its relief.

What surprised me not a little here was, the rapid exhaustion which ensued upon the previous state of almost athletic violence. Half an hour before death, he had required the assistance of his wife and two men to confine him in bed. In cases of hydrophobia I had witnessed the gradual approach of exhaustion consequent on a long-continued state of nervous excitement, and believe death in such cases to be the immediate result of the collapse of the system engendered by a degree of excitement it is unable to support, decidedly as cause and effect. But under such circumstances the exhaustion has been slowly and gradually induced. Whereas, in the case of which I have given a brief outline, it set in without warning, on a state of violent excitement existing but a moment before.

Van Rotterdam mentions a somewhat similar case of furious delirium, suddenly setting in at a moment's notice, in which the patient opened a window and threw himself out on the roof of a house.

Again, Dr. Marshall Hall, in the work I have so often alluded to, relates a case of great interest, wherein a lady, having been bled repeatedly for abdominal tenderness consequent on parturition, and brought into a passive but debilitated state, was suddenly thrown into a state of wild incoherent delirium, through "some family occur-

rence of a trifling nature; and after a restless night, was found next day in the highest state of excitement, talking incessantly, screaming and struggling, with a wild expression of countenance, and a small rapid pulse." This patient's state was not ameliorated by leeches to the head, cold lotion, &c.; the delirium, on the contrary, continued "incessant, loud, and wild, without an instant's interruption for twelve hours." A full glass of wine repeated every hour, restored her, at the end of the fourth, to a state of perfect composure, and she thoroughly recovered.

There can be no doubt, I think, in this case, that loss of blood was the cause of the maniacal state she fell into. "I am persuaded," says Dr. Hall, "that loss of blood is by far the most frequent and influential source of delirium or mania occurring in the puerperal state."

I have long been convinced of this myself; though it has been my painful lot, in two cases of this nature, wherein I had no voice, to remain a passive spectator of the reapplication of the lancet. One of the unhappy patients died under the operation, because, peradventure (as Dr. Sangrado affirmed, on beholding his patient die under the repeated abstraction of blood), because "he had not been blooded enough."

There is a form of delirium described by our English Hippocrates (Sydenham,) which seizes some people at the very point of convalescence, and wherein he warns us "not to apply here the *ordinary cure of delirium;* it, on the contrary, must be cured by quiet, by tonic remedies, and generous diet; since this kind of delirium seems to proceed, not from sanguineous congestion in the cerebral organ, but from exhaustion of the vital energy. It is on this account that it is not here necessary even to administer local bleeding; and if, as it frequently happens, such subjects be blooded under pretence of removing the sensation of weight from the head, or the tedious drowsiness, the period of returning vigour is retarded, and sometimes an imbecility is induced for the remainder of life."

Dr. Burne, in his Treatise on the Adynamic Fever, alludes to the same circumstance, where he says, when the fever is on the decline, "there takes place watching, with a peculiar staring, rather brilliant, and observant eye, and frequent lifting up the head, as it were to listen, and mild delirium; the stroke of the pulse is short, and leaves no impression on the finger, and the artery is very compressible. These signs must not be mistaken for irritation or subacute inflammation of the brain: they occur in patients who have lost much blood; they are the result of that loss, and depend immediately on a defective arterial impulse, and defective supply of blood to the brain."

I have hitherto been silent on that variety of delirium so frequently occurring as the offspring of intemperance; nor will the limits of my paper allow me to do more than briefly allude, on this occasion, to it, as involved under the subject I am treating of.

Delirium tremens, indeed, opens at once a field of too much extent, as well as one too imperfectly understood, to admit of being summarily disposed of in a few words. I shall, therefore, merely remark, *en passant*, what I believe is now very generally admitted, that the condition of the brain giving rise to it is much more one of exhaustion from previous over-excitement than of actual excitement *in ipso*. This symptom of trembling attendant upon delirium, was looked upon as of the worst augury, as early even as the time of Hippocrates; for we find that great man himself averring, that "if trembling accompanies delirium, it is constantly fatal." And at a later period, the learned Stholl declares that such an accompaniment is "always mortal." It is true that *we* do not go quite to this length in our present views of the danger attending a combination of these two symptoms; although such a condition must always be deemed at least unfavourable.

Whilst on the subject of delirium tremens, I may take the occasion to mention, that a plan of treatment was recently put in practice, at the Ordnance Hospital, at Woolwich, by the suggestion of my friend, Mr. Whitfield; the originality of which, I believe, he has every claim to. That gentleman prescribed, in a case of severe delirium tremens, the tartar emetic, in consequence of the success he had met with from its use in a tropical climate. He believed that he had there established its superiority over the opium and stimulant plan, in tranquillizing the nervous

system, and succeeded with this remedy when other means had failed. In the present instance he began with a grain every hour, which seemed at first to quiet the system. It was soon increased to two grains, and subsequently to three; but now its action on the skin and stomach, when pushed to this extent, obliged him to discontinue the remedy. Mr. Whitfield then substituted, for the emetic tartar, camphor and opium, under which treatment the symptoms were rapidly subdued. Still he declares that the failure of his remedy in this instance will by no means discourage him from having recourse to its use on future occasions: and though I am very far from being a convert to his views on the subject, I must admit that the safety of the remedy, as applied to the disease in question, has been fully established by him; as was also its tolerance in the dose of two grains every hour: a large amount, indeed, of the medicine, had the system even been fortified by inflammatory action!

Before I take leave altogether of my subject, I would beg leave to remark, in reference to the great question at issue—is the brain the seat of inflammatory action, or is it not, during the existence of certain questionable symptoms during life?—that how much soever it may continue to be matter of doubt if the patient lives, I agree entirely with Laennec, that it can no longer continue a mystery should the case afford a post-mortem inspection. I think him justified, I say, in his opinion, that as a general and constant rule, the deposition of a new product, such as pus or coagulated lymph, is the only genuine or incontestible proof of the previous existence of inflammation. The same opinion is entertained and strongly inculcated by Dr. Burne, in his Treatise on the Adynamic Fever; in which are contained some excellent practical remarks, under the head Delirium.

"Upon the whole," says Dr. Hall, "it seems highly probable that a certain balance of the circulation of the brain is necessary for the healthy condition of the functions; that they are equally impeded by the interruption which takes place in apoplexy, and the diminished impulse which occurs in these opposite conditions. What, indeed, is syncope, but an abolition of sense and motion? It is preceded by giddiness, tinnitus aurium, and impaired vision; and is accompanied by blindness, dilated pupil, perfect insensibility, and not unfrequently passes into convulsion. It differs, then, from apoplexy, chiefly or entirely in the state of the general circulation; the symptoms accompanying the two affections being remarkably similar, and the effect upon the sensorial functions almost entirely the same."

"Some physiologists," says Hunter, "will have it, that the stomach is a mill; others that it is a fermenting vat; others, again, that it is a stew-pan: but in my view of the matter, it is neither a mill, a fermenting-vat, nor a stew-pan—but a stomach, gentlemen; a stomach!"

Precisely so is it with the brain. It may be the seat of the soul, of the senses, or what not; but it is after all a brain, and nothing but a brain; and, as such, is subject to the same laws which regulate the other material organs of our system. It may be excited by causes which increase the circulation within it, or depressed by others which exhaust its energy; and though we are as yet but imperfectly acquainted with its physiology, and are unable to account for some anomalous symptoms it occasionally presents to our notice, we must ever bear in mind that its beautiful mechanism is compiled out of precisely the same elements as all the other parts of our body, and may naturally, therefore, be suspected of being subject to the same diseases; the variety in the symptoms of some of them depending, no doubt, on the peculiarity of its circulation and the delicacy of its own texture.

Let us not, also, in our views of some of its most complicated diseased conditions, be led on too far by established theories; which, though always excellent, as great land-marks to the physician, are occasionally found to be treacherous beacons when too closely followed. "Human experience," says Dr. Johnson, "which is constantly contradicting theory, is the great test of truth." And Celsus reminds us, that even medicine obeys no invariable laws: "Nulla perpetua præcepta medicina recipit."

NEW METHOD OF TREATING BURNS.

To the Editor of the Medical Gazette.

Sir,

In the year 1831 you did me the favour to admit a paper of mine to a place in the Gazette, promulgating a new method of treating burns. I am now induced to request you will also insert the following paper on the same subject, when you can afford space. It details the circumstances which first gave rise to the idea of curing burns without the intervention of suppuration; and I sincerely hope its perusal will induce many of the profession to try the plan there suggested, which I feel confident will not disappoint their expectations. In principle it is analogous to M. Velpeau's, only it is more fully carried out, and, under favourable circumstances altogether prevents suppuration, while his plan only diminishes it.—I remain, sir,

Your obedient servant,

Edward Greenhow, M.D.

North Shields, Sept. 1838.

The most various and opposite modes of practice have been adopted in the treatment of burns: while one party has advocated the use of cold and sedative applications, another has extolled the efficacy of stimulating ones; and although, doubtless, much depends upon the nature and extent of the injury, nevertheless there seems to be a want of some sound principle of practice, which, when once established, might be modified according to the exigencies of each individual case.

Professor Velpeau, in an excellent memoir, published in the "Revue Médicale Française et Etrangère," for June, 1835, takes a review of the effect of the different modes of treating burns, of which injury he recognizes four degrees: the first comprises simple rubefaction, the second vesication, the third the destruction of the rete muscosum and first layer of the true skin, and the fourth, where a part of the whole thickness of the skin is converted into an eschar.

The merits of various remedies for burns are examined in relation to these degrees; but it is unnecessary to notice these, with the exception of a new plan adopted by M. Velpeau, which is equally applicable to each of the four degrees of burns; and this plan is to apply straps of diachylon plaister around the injured limb, precisely in the manner recommended by Baynton, many years ago, in the treatment of ulcers. This plan M. Velpeau has found eminently successful, the dressing only requiring to be renewed, if the suppuration is profuse, every second day; otherwise every third or fourth day is sufficient. No doubt this plan has the effect of materially diminishing suppuration, by making a gentle and equal pressure upon the injured parts, and also by excluding the atmospheric air. In these respects it bears a close relation to a plan which I have pursued most successfully for many years, a short notice of which appeared in the London Medical Gazette, in October 1831, which plan, in many instances, has the effect of healing burns by the first intention, without the intervention of suppuration, and where from circumstances it does not entirely accomplish this, it very considerably diminishes the suppurating surface, and in all cases prevents the cicatrizations forming bridles, which under other modes of treatment so often produce contractions of the limbs and disfigurement of the countenance. But before I proceed to detail this mode of treatment, it may not be uninteresting to state the circumstances which first suggested the idea of curing burns by the first intention.

It is somewhat more than twenty-five years since I was consulted for a boy, who had fallen with both his arms into a kettle of boiling pitch: the agony he suffered at first was extreme, but as the pitch became cool, so did the pain abate. Upon examination I found his hands thickly coated with pitch, which also had found its way up the jacket sleeves, and probably also through the texture of the cloth; at all events, the sleeves from the wrists almost to the shoulders were firmly glued to the arms in a solid compact mass: the pitch on the hands after much trouble was got off by the free use of sp. terebinthinæ, and they were dressed with Ung. Resin. Flav. cum Ol. Terebinth; but with the arms I could do nothing. After vainly attempting to dissolve the hardened mass I abandoned it in despair, by no means easy as to the result of leaving it alone: however, he made little complaint of the

arms, and in the meantime the hands suppurated copiously, sloughs separated, granulations rose, and skin began to form in various points. It was now three weeks since the accident, and there had been no appearance of discharge from the arms, no offensive smell—nothing, in fact, to indicate that any process was going on: at the end of that period, however, I was delighted to find the sleeves of the jacket begin to loosen, and detach themselves from the arms, and in two or three days more I was enabled to rip them up and remove them altogether, when to my surprise I found the arms perfectly healed, and covered with a new skin, whereas the hands were not entirely healed until a month afterwards: on closely examining the jacket-sleeves there was found adhering to them a substance resembling thin leather, which I could not doubt was a slough, which had separated from the arms; and this had taken place, and the whole healing process had been accomplished, without the intervention of suppuration.

This case made a great impression upon my mind, and I endeavoured to devise plans for imitating the coating of pitch, which had so wonderfully healed the burn which it had itself occasioned. In talking the case over with a friend, in Newcastle, who was largely engaged in attendance upon collieries, in which cases of burns were of frequent occurrence, we agreed that on the first occasion that presented itself, instead of dressing, as we had been accustomed, with Ung. Resin. Flav. cum Ol. Terebinth. spread upon lint, to use the same ointment, melted over the fire, and applied with a brush or bunch of feathers, so as to form a complete coating over the burnt surface. It was not long before an opportunity presented itself of trying this plan upon an extensive scale, for not many days afterwards the friend above mentioned was summoned to a colliery where an explosion had taken place, and twenty-nine individuals, men and boys, were brought up, all of them more or less burnt, and many of them extensively and severely; all the brushes and feathers of the village were immediately called into requisition, and with the assistance of the relatives of the sufferers, in a very short space of time they were all thickly coated with the ointment, they uniformly expressed themselves as much relieved, and they experienced none of the rigors, so distressing after a burn, and the certain prelude to suppuration. The assistants were strictly enjoined to preserve the perfect integrity of the coating, by renewing it as often as it became necessary, and the men themselves were cautioned to move as little as possible, that they might avoid rubbing off the coating. It is unnecessary to dwell long upon these cases. They all recovered; many of them without the slightest suppuration taking place, and others having it take place only in a very partial degree; and although the faces of some of them were severely burnt, no suppuration took place in any one of them; and it was only in places where friction could not altogether be avoided that suppuration took place at all, and on those parts where sloughs necessarily formed, in consequence of the depth of the injury, the sloughs peeled off like pieces of shrivelled leather, as the surface skinned beneath them.

The result of these cases was most satisfactory, establishing not only the possibility of healing burns without suppuration, but also that this was accomplished in a much shorter period than could have been effected by any other mode of treatment, and also that the constitutional irritation bore no comparison to what it would have done had there been a large suppurating surface: in point of fact, many of these men were burned so extensively, that had suppuration taken place, the probability is, that the system would have sustained a shock which would have proved fatal.

Since the period at which this occurred I have pursued the same plan in the treatment of burns, and every succeeding year has served but the more to convince me of the advantages it possesses; and the friend I before alluded to never employed any other mode of treatment up to the end of his life. This plan also, like M. Velpeau's, is applicable to any of the four degrees of burns; and where it is desirable to make the coating of a firmer consistence, it is easily accomplished by the addition of a little bees' wax or resin to the vessel in which the ointment is melted.

Within the last few weeks I have seen the case of a female who set fire to her cap, which, together with her neckerchief, were entirely consumed, leaving her face, neck, throat, and part of the

breast, very severely burnt. She was treated according to the above plan; and although, from the depth of the injury, several sloughs formed both upon the face, neck, and ears, yet not the slightest suppuration took place, and the whole surface healed without leaving a vestige to indicate that such an accident had ever occurred.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

The Spas of Germany. By A. B. GRANVILLE, M.D. F.R.S. &c. Second Edition. London, 1838. 8vo. pp. 516, and lviii. With 39 Illustrations and Maps.

[Concluded from page 21.]

THE Wildbad water is very soft and pure, containing only one grain of solid matter in a pint, according to Stauden Mayer; and three and a half, according to the more recent analysis of Drs. Sigwort and Weiss. Of this, common salt forms one half, after which come the carbonate and sulphate of soda, and the sulphate of potash, carbonate of lime, and carbonate of magnesia. Some chemists have also found very slight traces of iron, together with indications of a little animal and bituminous matter.

Liebenzell, which is in the kingdom of Würtemberg, at no great distance from Wildbad, possesses two cold, or rather tepid springs, the one having a temperature of 77°, the other somewhat lower. In chemical composition it resembles the Wildbad water, but the quantity of solid matter is greater*.

These waters are heated, but that of the lower well is employed by many in its natural state.

"I have been assured that these baths have been found very useful in scrofulous diseases, and in consumption, accompanied with tubercles; in which latter condition of the lungs, it is said that the exhalation of the surrounding fir forests is also particularly serviceable. In hæmorrhages of all sorts, such as spitting of blood, habitual bleeding from the nose, or from hæmorrhoidal vessels, as also where the natural excretion of blood is too profuse, the Liebenzell waters have acquired a well-merited celebrity; and so far they differ essentially from the Wildbad waters, as I have shewn in the preceding chapter. Used both inwardly, and as baths, they have, of late years, performed some striking cures, in cases of morbid sensibility of the stomach and intestinal canal, and have removed attacks of neuralgia, or *tic*, dependent on that condition of the digestive organs."—(P. 76).

Deinach, a village situated in the heart of the Black Forest, five English miles from Wildbad, possesses two kinds of cold mineral springs, one being a carbonated saline water, and the other a carbonated chalybeate. The latter is very strong; "its taste is so intensely styptic, that it may be compared to that which is left behind on the tongue of a school-boy who wipes an inky pen with his mouth."—(P. 78).

The temperature of all the springs is about 45°. Besides its efficacy in dyspepsia, Deinach has long been celebrated for the cure of insane patients, and several of that class, "including hypochondriacal and melancholic persons, were in the course of cure at the time I visited the springs."—(P. 78).

Cannstadt is a village distant only two English miles from Stuttgart, so that the invalid may live, if he prefers it, at the capital of Würtemberg, and drive or walk daily to the healing spring. The principal spring, which is that called the *Sulzrainquelle*, contains, in sixteen ounces of water, nineteen grains and a half of common salt, seven grains and three-fourths of Glauber, and nearly twice that quantity of Epsom salts, besides carbonate of lime, $\frac{7}{30}$ of a grain of carbonate of iron, and one volume and $\frac{14}{100}$ of carbonic acid gas. According to Morstatt, the temperature is from fifteen to sixteen degrees of Reaumur (66° of Fahrenheit).

Boll, the remaining watering-place belonging to this group, is twenty-five English miles from Stuttgart. The spring is a cold sulphureous one. "The water rises through a soil consisting of bituminous marl and a species of sulphureous gravel. It has a temperature of 54° of Fahrenheit, and its predomi-

* At p. 75, the quantity of solid ingredients in a pint is stated to be 43 grains, but from the quantities given in the table at the end of the work, this would appear to be a misprint for 4·3.

nant saline constituents are Glauber salt, and the carbonates of lime, soda, and magnesia. There are traces of iron and manganese, and likewise strong indication of the presence of bitumen. Of its gaseous contents carbonic acid is the most prominent; next in quantity is azote; and lastly, sulphuretted hydrogen. From long experience it has been found that Boll proves of essential service in diseases of the skin, psora, and other deturpating complaints. Nocturnal pains in the bones from erotic diseases, carious ulcers of the legs, contraction of the limbs, and lameness, have been cured in so many instances by the application of this water, that its reputation in these respects is undoubted, and of long standing. As a depurative of the blood when in a vitiated state, I should consider the mineral water of Boll, taken internally, capable of producing the most happy results. This view of its virtues, which I formed on a serious consideration of its composition, induced me to recommend it to an officer in the Würtemberg army, who, such was the ill condition of his blood, could neither bear a scratch, nor the slightest cut of his skin, without suffering from festering sores, which would continue open and angry for several weeks. This peculiar state had been brought about, partly by high living, and partly by early debauchery."—(Pp. 85-6.)

He was cured in two months, but complained of the nastiness of the water.

The whole establishment at Boll belongs to the crown, and the cheapness of rooms and baths is quite astounding. The rent of a bed-room varies from one to three florins a week; that is, from twenty pence to five shillings. A bath in a private room is about a shilling, and half that sum on the ground floor. A very sensible man, a native of Würtemberg, and well acquainted with the English nation, said to Dr. Granville:—"If an English family, coming hither, will put up with table, wine, hours, and amusements, as they find them, they may live comfortably and excessively cheap; but if they mean to introduce English fashions and English manners, they will have to pay and smart for their whims, and yet miss many of the comforts to which they are accustomed at home."—(P. 88.)

The next group, the Saltzburghian Spas, consists of two only, Gastein and Hof Gastein, situated about eighty-five English miles south of Saltzburg. Gastein lies in a mountainous region, more than 3000 feet above the level of the sea, and possesses four principal springs, whose temperature varies from 115° to 118½°. The diseases in which Gastein has shewn its powers are nearly the same as those cured by Wildbad. Hof Gastein is a village which receives the superfluous and overflowing visitors of Gastein. Want of room compels us to pass on without noticing our author's well-written discussion of the merits of these waters; but we will just mention one merit of the place itself, which some of our readers will not be slow to appreciate: it is not so *hacked* as many of the German watering-places are. An Englishman, says Sterne, does not travel to see Englishmen; but at many of these Spas the crowd of British men is quite overpowering; at Gastein, on the contrary, at least for the present, the great majority are not subjects of Queen Victoria.

The Bohemian Spas form the fourth group, and are seven in number, consisting of Carlsbad, Marienbad, Egra, Pullna, Saidschütz, Seidlitz, and Töplitz.

"Carlsbad," says Hufeland, "is a remarkable example, that what has real intrinsic worth is superior to all changes of time, fashion, and theory. Unpleasant in taste, without the immediate enlivening powers of the carbonated waters, not promising much, according to chemical analysis, and having a purgative quality, consequently neither attractive to the senses, nor through the importance of its ingredients, but rather of late years opposing the predominant theory, it has yet unalterably maintained its great reputation, for a very simple reason—it cured patients whom no other remedy could cure, and that in spite of theory. And thus it will ever be the case:—'Opinionum commenta delet dies, naturæ judicia confirmat.'"—(Hufeland, p. 137-8.)

He said the same thing to our author some years ago at Berlin: when he asked the reason of the undiminished celebrity of Carlsbad, Hufeland replied, "C'est qu'il guérit des maux rebelles à tout autre moyen curatif."—(Granville, p. 248.)

The principal spring is called the *Sprudel*, and its temperature is 167°. "Its prominent chemical character is that of containing a large proportion of soda in three different states of combination, namely, as *Glauber salt*, *carbonate of soda*, and *common salt*."—(P. 223.)

According to Berzelius, of 31½ grains of solid matter in a pint of the water, 28 are sodaic salts. More recent analysts have discovered iodine, bitumen, a kind of organic soapy substance, and sulphuretted hydrogen gas; but the first and last of these Dr. Granville considers doubtful.

The waters of Carlsbad, says our author, "exert their principal sanative action,—1st, on all chronic affections which depend on debility of the digestive organs, accompanied by the accumulation of improper secretions; 2ndly, on all obstructions, particularly of the abdomen, which, as Becher, the oracle of Carlsbad, observes, they resolve and disperse; 3rdly, on the acrimony of the blood, which they correct, alter, and evacuate, or drive towards the extremities of the body; 4thly, on calculous and gravelly deposits; 5thly, on many occult and serious disorders, the nature of which is not readily ascertained until after the partial use of the waters, such as tic douloureux, spasms, rheumatism, and gout."—(P. 249.)

Dr. Granville observes that nearly two-thirds of the diseases to which man in his civilized state is subject, in a chronic and often painful form, may be relieved by these waters. Among the diseases in which his own experience warrants him in recommending them, he mentions those engorgements of the spleen, and that distended state of its vessels, which he asserts, and probably with justice, to be more common in women, especially of the higher classes, than medical men appear to be aware of.

The Rev. C. E. Hutchinson, whose narrative of a recovery from tic douloureux we noticed about three months ago, has written a letter to Dr. Granville, in which he seems much nettled with our doubts as to the cause of his cure. He says the reviewer denounces all that he has said as false. This is a sad mistake of the reverend layman; the reviewer merely supposed him to be in error—in well-meaning, excusable error. We would bet a copy of the GAZETTE against one of Mr. Hutchinson's pamphlet (large odds these) that nineteen dispassionate persons out of twenty will take part with us, and not, as Dr. Granville has done, with the angry narrator.

In some cases, of course, these powerful waters are contra-indicated:—"Let him who labours under hectic fever, incipient phthisis, or dropsy, avoid Carlsbad, for it would hasten his end."—*Hufeland*, p. 164.

We would willingly linger awhile over the agreeable and instructive pages of Dr. Granville; but this review has already overstepped the usual limits of our notices. We must therefore break off abruptly, and pass over Töplitz and Egra, which with Carlsbad, says Hufeland, form the Bohemian *Kleiblatt*, or trefoil; nor must we speak of the glorious *Kursaal*, at Brückenau, nor Marienbad, the Garden-Spa, nor Selters with its million of exported jugs, nor Wiesbaden with its princely hotel, nor the other Nassau Spas sung of by the Old Man of the Bubble-book.

One thing, however, we must not omit to say. The maps are useful, and many of the wood-cuts are exceedingly good. Perhaps the best are the one of the Fürstenbad already mentioned, and the one at p. 146, representing a fountain at Saltzburg. To conclude: we would recommend those, if any such there be, who doubt the virtues of mineral waters, to read this work, and then extending their studies to the accumulated evidence of ages *, let them renounce their chemical scepticism. Perhaps one cause of these virtues may be, as Hufeland and Dr. Granville suppose, that the heat of thermal springs is combined more intimately with the water than when it is warmed by fire; to which we may add, that mineral waters probably contain ingredients which chemistry has not yet learned to appreciate; but whatever may be the cause, the effect is certain.

"Desine quapropter novitate exterritus ipsâ
Exspuere ex animo rationem: sed magis acri
Judicio perpende, et si tibi vera videtur,
Dede manus: aut, si falsa est, accingere contrà." *Lucret.* i. 1039.

* A hundred and ninety-eight works had been published on Carlsbad and its springs at the end of 1836.

MEDICAL GAZETTE.

Saturday, October 13, 1838.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

ON THE BEST MODE OF CONDUCTING MEDICAL STUDIES.

THE writer who gives advice to medical pupils as to the best method of pursuing their studies, may either suppose them to be limited in time and money, and consequently desirous of laying out both to the best advantage; or, that they wish to become finished practitioners of the highest class, without regard to time or expense. Some introductory lectures suppose the latter; and the attention of the pupil is consequently directed to the extreme importance of certain auxiliary branches, such as medical jurisprudence, and the utility of zoology, geology, and mineralogy. Now the advice which we shall venture to offer to pupils in the present article, will be chiefly addressed to that large class who come to London for two years and a half only, in order to study physic and surgery as they best may, and then pass their examinations at the College of Surgeons and Apothecaries' Hall.

We may make the preliminary observation, that if the length of time devoted to ordinary medical education is supposed to depend on the pecuniary circumstances of the parties, it is not a little curious that it should be so much shorter in England than in France, Austria, and other countries, where comfortable incomes are far more rare. This may proceed from two causes; either from the period of two and a half years, short as it is, appearing long by comparison with the periods previously enjoined; or from the five years' term of apprenticeship being erroneously supposed to be identical with five years of education.

This leads us naturally to a topic of advice addressed not so much to pupils as to parents. The Worshipful Company recommend in their regulations, that the apprenticeship should not begin till "the youth has attained his seventeenth year, and that he should previously have received a sound classical education, and have been instructed in the elements of mathematics and natural philosophy, and have acquired a knowledge of the French, and, if possible, the German languages." To this they add, that during the apprenticeship the pupil ought to become "acquainted with the nomenclature of the profession, the manipulations of pharmacy, and the elements of osteology; whilst opportunities should be afforded him of watching the progress of disease, and of noticing the effects of remedies." If parents would take care, previously to binding their sons to an apothecary, to bring up their education to the level of these judicious suggestions, and then refuse to allow them to be degraded into mere powder and pill makers, but demand that their education should be continued during their apprenticeship, their progress when studying in London would be far greater than can be expected under existing circumstances.

The difference between lectures falling on the dull ear of a mere counter-drudge, and eagerly devoured by a genuine student, is infinite. To learn quickly one must already know much, and knowledge is most zealously sought for by those who have got over the first difficulties attendant on acquiring it:—

"Quo plus sunt potæ, plus sitiuntur aquæ."

We wish that the Court had likewise recommended that the lectures on botany and chemistry should, when possible, be attended during the first half of

the apprenticeship, and had allowed the pupil, on the commencement of more pure medical studies, to pass an examination once for all in these ancillary sciences, as he is permitted to do in Latin medical classics.

The student, however, who has not attended botanical lectures till he comes to town, will find that the Regulations leave him the choice of doing so during either the first or second summer session. We strongly recommend him to adopt the former alternative, if he remains in London during the summer, as he is not enjoined to attend any other course; whereas in the second summer session he will be occupied by midwifery, with the diseases of women and children, forensic medicine, and the medical practice of an hospital.

It is much to be wished that the Court would define what they mean by botany, so as to prevent the student from spending too much time in the endless details of this science; or that they would even sanction some manual containing a brief account of the elements of botany, and a description of the chief medicinal plants, and thus save the student both from bulky treatises and unsatisfactory vade-mecums. On the whole, the diligent pupil will not spend many of his hours on botany.

Chemistry is the first mentioned among the studies of the first winter session: it is certainly of more importance than botany, and, accordingly, has twice as many lectures allotted to it—a hundred instead of fifty. This is a fascinating science: but the zealous pupil must recollect, that if he wishes to become—we will not say a chemist, but even a chemical student of any pretensions, he must either sacrifice more important pursuits, or must extend the period to which we have supposed him limited. Here, again, it would be desirable that the Worshipful Company should direct the student to confine his reading to some authorized manual, and substitute an examination in this work, with the performance of some easy experiments *coram curiâ*, for the undefined examination now dreaded by the student. We are hardly sanguine enough to hope that the ordinary pupil will be able to recollect the substance of a hundred lectures; but there are some prominent points which it is to be hoped even the more careless will not forget. Such are the tests for poisons, a list of the chief incompatible substances, or those which should not be prescribed in conjunction, the composition of the animal fluids, and the use of the barometer and thermometer.

The next subject on the list is anatomy. During his first winter session the pupil will attend lectures on anatomy and physiology, and anatomical demonstrations; during his second winter session he will attend the same courses, and is also required to dissect; during his third winter session he is again to dissect. We request our younger readers to observe that although the quantum of anatomical study here required may appear to them to be considerable, and may possibly be sufficient for the exigencies of general practice, yet that it is wholly inadequate for the real surgeon. They may answer, perhaps, that something more is required by the College; but this again they will find insufficient, if they hope ever to use the knife with safety and confidence. In fact, the quantum of dissection required in the education of the genuine operating surgeon is so great as not to come within our present scope; for we could no more expect it to be crowded into the space of two and a half years, and those years filled with other studies, than we could hope to see five harvests in the same time. Let the student, while dissecting, not omit to make

some preparations: they are useful to him while making and when made; a good refresher to his memory, and an excellent certificate of his industry.

The remaining subject to be studied during the first winter session is materia medica and therapeutics. Nothing can be a better introduction to the practice of physic than this subject, if, indeed, we do not rather regard it as the practice of physic itself, seen under another point of view—the reverse, as it were, of the tapestry, where the figures can be made out, though the colours are not very clear. In treating of inflammatory diseases, for instance, the physician says, "Here we use purgatives, and especially the saline ones;" and in treating of the neutral salts, the lecturer, if he be a practitioner, (which he ought to be) will mention their especial use in the pyrexiæ. Hence, in addition to the history and properties of each drug taught in this course of lectures, the principles of medical treatment are impressed on the hearer's mind. This, indeed, is implied in the very title of the course; it is not only on materia medica alone, but also on therapeutics. We would here caution the young beginner not to run off with the convenient but erroneous theory, that half a dozen medicines are sufficient for practice. They may be sufficient, perhaps, for some kind of practice, but certainly not for the best. We read, indeed, of pharmacology contracted by the French surgeons into the slender span of "aqua, acetum, vinum, hordeum, nitrum, mel, rheum, opium, stibium, ferrum, ignis." (Young's Med. Literature, 2nd edit., p. 452.) But this was probably done in a time of extreme necessity, and is to be quoted rather as a curious instance of what may be done by ingenious indigence, than what should be done by unfettered opulence. As the student makes progress in the art of healing, he will find not only that it is right to know the properties of a great number of powerful remedies, but that many drugs denounced as superfluous by unpractical men, are useful—so that even quince seeds have their merits.

In his second winter session the student will attend his first course on the principles and treatment of disease. This is the most important of all the subjects he has to go through, and will demand a corresponding zeal. Lectures, books, and hospital attendance, all contribute their share of information. The notes taken in the hospital should, at first, be confined to a few cases, and the pupil will do well to look out for similar ones in systematic authors, or better still in those who have written on single diseases, or single classes of disease. The clinical lecturer, if applied to, will advise him as to the cases which should first occupy his attention; in default of such advice we should recommend the first half dozen to consist of fevers, simple or eruptive, and inflammations of the lungs or pleura. It would be desirable, if possible, that some period should be appropriated exclusively to medical attendance on an hospital, and the clinical lectures there delivered—assisted, indeed, by books, and by attending patients at their homes, but unincumbered by any other lectures. The study of practical auscultation would advantageously fill up a portion of this time. There are many pupils, however, who might contrive to do this, and with infinite advantage, after their examinations are over.

When attending the practice of surgery, the student, whom we are now more particularly addressing, will recollect that few of the great operations will probably fall to his lot; and it is to

be hoped that, as an honest man, he would not venture to perform them with an education of two years and a half. What is called minor surgery, however, will be his daily business; and his dexterity in bleeding, bandaging, passing the catheter, &c. &c., will contribute much to his reputation, his comfort, and his income.

The Practice of Midwifery, which the student will attend during his second summer, and his third winter session, is in one respect better taught than either the Practice of Physic or of Surgery; as it is, we believe, the universal custom for the lecturers to give cases to their pupils. The pupil, of course, renders an account to his teacher of the progress of the patients entrusted to him, and receives the benefit of his advice in all emergencies. Hence the pupil who contrives to learn nothing, or next to nothing, from a course of obstetrical lectures, must be an idler of the first water, and will learn little, we fear, anywhere else. When we add to these observations, the fact that midwifery is one of the readiest, or perhaps the very readiest, passport to success in our profession, we shall see ample reasons why this branch of study should not be, and is not, neglected.*

The pupil who attends indigent patients at their own homes, must recollect that the first rule of medicine is, *saltem non nocere;* that in doubtful cases he must not run the risk of aggravating the symptoms by powerful but inappropriate treatment, and must rather do nothing, than do harm; and if he has forgotten the dose of a remedy, he must take care to be below rather than beyond the mark. Above all things, we would say to him, do not be harsh to your patients. They are poor and sick, and perhaps stupid; they do not understand your questions, nor, perhaps, you their answers. Bear with them; learn the vague dialects of poverty and ignorance; and when occasion serves, be the interpreter between those who speak so rudely, and the fortunate possessors of a more graceful language. Do not snatch a hasty glance at your patients, and then run off, as if you had half the practice of London on your shoulders, but consider each case with due attention. The pupil who, on entering a sick room, is in such an exceeding hurry that he has no time to sit down or take off his hat, had better wait, as the vulgar say, till his hurry is over.

The last branch of study that we have to notice is Forensic Medicine. This consists entirely of the most difficult and curious points in medicine, and the ancillary sciences, turned into problems, on which life, and liberty, and property depend. The pupil will admire, but cannot, properly speaking, study Forensic Medicine as a whole. Some points, indeed, he will retain; but to be qualified to give an opinion on medico-forensic topics in a court of justice, it is requisite that the witness should be a consummate physician, or surgeon, or anatomist, or chemist, as the case may demand.

Three more observations, and we have done. The first is, that the pupil who intends to profit by his sojourn in London must recollect that he does not go to lecture, nor to his hospital, in order to criticise, to object, to ask captious questions, or, in fine, to teach his teachers,—but to learn.

The second is, that he must make the hospital, as far as attendance on lectures will allow, his constant place of resort,

* It might, however, be cultivated with still greater diligence, and probably would be, if a midwifery board of examination were established. This has often been recommended, and has the support of Sir Astley Cooper, in his late evidence before the Committee on the Medical Relief of the Poor.

his second home; for it is the practice of physic and surgery that he has come to town to learn, and they are learned by seeing. Hence it is most advisable that the pupil's lodging should not be more than a few minutes' walk from this great scene of his studies.

Lastly, he must never forget that progress is made not by a few great efforts, but by a repetition of small ones:—the maxim of one of the most eminent of artists was, *Nulla dies sine lineâ;* and the medical student will do well to adopt it.

GLASGOW EYE INFIRMARY.

Clinical Lectures by Dr. Mackenzie.

September 29, 1838.

Iritis Sympathetica.

I occupied your time during last lecture with the narration of six cases of sympathetic iritis, and with a few general remarks on this affection. I am now about to draw some conclusions from those cases and other similar ones recorded by authors, and purpose to arrange what I have to say under the following heads:—

1. The kind of injuries which, affecting one eye, are apt to induce sympathetic inflammation in the other. 2. The date at which attacks of sympathetic iritis, or retinitis, are apt to occur. 3. The subjects in which this disease is generally observed. 4. The exciting causes of sympathetic iritis. 5. The symptoms, local and constitutional. 6. The nature of the connexion by means of which this sympathetic inflammation is brought on. 7. The diagnosis. 8. The prognosis. 9. The treatment.

I. The injuries which, affecting one eye, are most apt to excite, after some time, sympathetic inflammation in the other, are penetrating wounds, inflicted by cutting instruments, or by the forcible projection of splinters of iron or stone, or the fragments of percussion caps. A mere blow on the one eye (for example, with a stick) has been known to impair the other sympathetically; but in general it is from penetrating wounds that the disease we are now considering takes its rise. Sometimes the wound is inflicted by such an instrument as a chisel or screw-driver, as was the case with Finlay, so that there can be no suspicion of any thing being lodged within the eye; while, in other instances, the suspicion is strong, or there is an absolute certainty, that a foreign body has passed through the tunics, and lies there unextracted. Sympathetic iritis has been known to occur both where the foreign body has been extracted immediately after the receipt of the injury, and where it has lain for weeks within the eye.

The injuries we are now speaking of are sudden and violent. They are generally attended by a loss of part of the humours, and by an extravasation of blood into the interior of the eye. The parts divided have generally been the cornea and iris, with a small part of the sclerotica and choroid. The junction, in fact, of the cornea and sclerotica, and consequently the annulus albidus of the choroid, is the place which has been wounded in most of the cases which I have seen. I think sympathetic iritis is more apt to be excited if the wound has been followed by a protrusion of the iris, and such a cicatrice of the cornea and sclerotica as keeps the portion of the iris not involved perpetually on the stretch. If the wound has been so extensive as to divide or lacerate the retina, sympathetic inflammation is probably still more apt to occur. The injury which the lens suffers in such cases, and the traumatic cataract which follows, have little or no influence in causing sympathetic disease. A wound which implicates merely the cornea and lens, or even a wound of the cornea with simple prolapsus iridis, is not apt to excite sympathetic iritis. I have never known any of the operations for cataract bring on this affection; not even when, after that of extraction, the iris protruded, and the cicatrice which followed caused dragging of the opposite side of the iris, have I ever seen sympathetic inflammation. These facts, then, would lead us to conclude that injuries of that part of the choroid called the annulus albidus are most apt to cause sympathetic iritis. If, along with a wound of that part of the choroid, there is a loss of part of the vitreous humour, and a protrusion of the iris, I should dread an attack of sympathetic inflammation; especially if, about the time of the cicatrization of the wound, the patient began to use the good eye in earnest, committed any irregularity in diet, over fatigued himself, or suffered from mental excitement or distress.

II.—Were we to judge of the period of time which generally elapses between an injury of one eye and sympathetic inflammation manifesting itself in the other,

from the six cases which I related formerly, as having occurred in the practice of this infirmary, we should say that five weeks was the most frequent period; for in Mill, the sympathetic disease came on six weeks after the injury; in Paterson, the period was three months; in Moore, one month; in Downie, five weeks; in Finlay, five weeks; in Gartshore, four or five weeks. In three out of the six cases recorded by Mr. Lawrence, the period is not mentioned; in the other three, the periods were a few weeks, five years, and soon after six weeks. In Mr. Wardrop's two cases the periods were three weeks, and one year.

III.—The subjects of sympathetic iritis have most frequently been, in my experience, men employed in iron-works. At the time when their eyes were injured, their general strength was not impaired, but from their habits of life, and especially from their liberal use of spirits and tobacco, their constitutions were in an artificial state, very unfavourable for throwing off any inflammatory disease. Hence it appeared to be, that the iritis degenerated into the arthritic variety, and proved so intractable. In some of the cases I have seen, the sympathetic inflammation was modified by scrofula, a modification scarcely less troublesome than the arthritic. In one of our cases, Dr. Kennedy observed that the wounds made in bleeding the patient at the bend of the arm generally suppurated; which led him to inquire whether a syphilitic taint might not be present. The patient acknowledged having had some primary syphilitic symptoms before he received the injury of his eye; but he had no sore-throat nor eruption, and the eye, sympathetically inflamed, shewed no peculiar indications of syphilis.

IV.—It sometimes happens that the patient is unable to specify any exciting causes for the sympathetic attack; but, in other instances, causes of this kind are distinctly mentioned. For example, in Finlay, the exciting cause was manifestly the reading, for three or four hours together, in a book printed in a small type, and in one of Mr. Lawrence's cases, the eye had been incautiously worked. The wounds of the eye, which are apt to give rise to sympathetic iritis, commonly take from a month to six weeks to cicatrize. Whenever they are healed, the patients are apt to re-commence their usual employments and modes of life; and then it is that the exciting causes of the sympathetic disease come into play.

The same sort of exciting causes which produce the first attack of sympathetic inflammation, also bring on relapses when the patient is recovering; and it is generally by a succession of relapses that vision is ultimately destroyed.

V.—The local symptoms of sympathetic ophthalmia are those of iritis, passing rapidly into amaurosis and atrophy of the eye. Not unfrequently the first symptom is dimness of sight. This is rapidly followed by zonular redness around the cornea, dingy greenness of the iris, flexibility of the cornea, bogginess of the sclerotica, opacity of the capsule, greenishness of the lens, varicosity of the rectal vessels, the presence of red vessels ramifying over the surface of the iris, contraction and adhesion of the pupil, puckering and bolstering forwards of the iris, and total insensibility of the retina. The pain is very variable; for in some it is slight, as in Gartshore, who said she had had no pain in the eye sympathetically affected, while in others it is severe, as in Finlay. Photopsia is a usual symptom about the commencement of the attack. In some there is great intolerance of light, as in Paterson; in others, there is little. At length, the shrinking of the eye-ball, and especially of the cornea, is very remarkable. In one of Mr. Lawrence's cases, both corneæ had shrunk to the size and figure of a barleycorn placed horizontally.

There can be no doubt that retinitis forms a part, and a chief part, in all cases of sympathetic ophthalmia. Perhaps retinitis occurs first, and added to it is the iritis. The early loss of vision shews that the retina is deeply implicated from the very commencement. The flexibility of the cornea, and softness of the sclerotica, indicate the vitreous fluid to be lessened in quantity. The changes which are visible in the capsule and in the iris are plain indications how far these textures are affected.

Sympathetic iritis is generally an inflammation of that description which is called *unhealthy*. It sometimes resembles scrofulous internal ophthalmia; more frequently it resembles what the Germans call arthritic ophthalmia. The symptoms are often such, that one skilled in German ophthalmology would at once say, here is arthritic iritis. I have often observed to you, that if we use the term *arthritic* merely as a conventional one, to express a certain variety of eye disease, characterized by certain signs, this may be allowed; but if by arthritic is meant strictly *gouty*, applied to the cases we are now considering the term is incorrect. The subjects of sympathetic iritis may have some peculiarity of constitution, produced by their mode of life, and by the nature of the ingesta to which they have habituated themselves; but these are not

sufficient grounds, I think, to suppose that they are labouring under the gouty diathesis. It is more probable that the particular textures of the eye which are affected, and the modes in which these textures are suffering, produce the peculiar symptoms which present themselves so strikingly in such cases, and which the Germans choose to call arthritic.

Amongst the constitutional symptoms we may mention quickness of the pulse, thirst, a marked buffy coat on the blood drawn from a vein, a pallid complexion, and obstinate constipation. A degree of ill health, in fact, has generally resulted from the confinement, want of exercise, and medical treatment necessary for the cure of the original accident; and in this debilitated state the patient is attacked by the sympathetic disease.

VI. The fact, that disease in one eye is apt to be followed by similar disease in the other, has long attracted attention. Inflammation, cataract, and amaurosis, have especially been observed to occur in this way, from what is termed a *consensus oculorum*.

Mary Young (No. 8266), who is at present attending as an out-patient, presents a curious instance of inflammation passing from the one eye to the other. Several years ago she was affected with trichiasis, xeroma of the palpebral conjunctiva, and thickening and opacity of the left cornea. At that time the right eye was perfectly well; but within these few months we have the same set of symptoms in the right eye, only in a less degree, which we had formerly in the left. The corresponding eyelashes are inverted, the corresponding part of the conjunctiva has become dry, and the corresponding portion of the cornea is opaque.

Jess Gemmel (No. 6234), and John M'Brair (No. 8561), two patients at present on our list, afford instances of sympathetic amaurosis, and oscillation of the eyeball. In Gemmel the left eye was destroyed by a blow, and eight days after the right eye was found affected with oscillation, and a great degree of dimness of sight, but without inflammation. We know less of M'Brair's history, as the injury which destroyed the sight of his left eye, and produced almost a complete absorption of the iris, occurred in childhood; but in him we have another example of sympathetic oscillation and amaurosis.

Dr. Albers (Himley und Schmidt's Ophthalmologische Bibliothek, ii. Band, iii. Stück, p. 169,) relates the case of a countryman, who, in a scuffle with his brother, was struck with a pitchfork in the right eye, whereby the cornea and iris were seriously injured. The wound healed up in such a way that the sight was not entirely lost. In three days after the injury, the patient observed a diminution in the vision of the left eye, and a distinct opacity in the pupil was discernible. This increased so rapidly, that in eight days there were all the signs of a fully formed cataract. Half a year afterwards he was operated on by Professor Jung, of Marburgh, but unsuccessfully, the patient remaining completely blind. Albers asks, if this case does not go to prove a decussation of the optic nerves; to which Himly replies in the negative. For suppose (says he) that the cataract, the sudden formation of which is very remarkable, was really a consequence of the injury, and not only so, but that the injury was the sole cause of the cataract, and did not operate merely in exciting a tendency already existing to opacity, we find similar appearances of *consensus* frequently in the corresponding teeth of the two sides, where no such decussation or nervous communication can be brought forward in explanation.

Notwithstanding this objection of Himly, it is generally acknowledged that those organs of the body are most apt to affect others, or in their turn to be affected sympathetically, in which the nervous system is the most developed; that there are no organs between which a sympathy in different states of disease exists so remarkably as the two eyes; and that there are no organs in which the nervous system is more developed, none in which the nerves of the opposite sides are connected in the same intimate way.

In the cases which we have been particularly considering, it is not improbable that the blood-vessels on the side of the injured eye, being in the state of fulness and inordinate action which attends inflammation, communicate to those of the opposite side, with which they have connexions within the cranium, a disposition to the same morbid state in which they themselves are. The ciliary nerves, also, of the injured eye may be the means of conveying into the third and fifth nerves an irritation, which may be reflected from the brain to the same nerves on the opposite side. I think, however, that the chief medium through which sympathetic ophthalmia is excited, is the union of the optic nerves. The researches of modern anatomists have tended only to confirm the conjectures of Newton (Opticks, query 15,) that the optic nerve of the one eye proceeding backwards, and meeting the optic nerve of the other eye, the two mingle their fibres, and partially decussate. It is extremely probable that the retina of the injured eye is in a state of inflammation, which is propagated along the corresponding optic nerve to the chi-

asma, and that thence the inflammatory action is reflected to the retina of the opposite eye, along its optic nerve.

VII. The history of the case will, in general, be sufficient to prevent any difficulty in the diagnosis. Sympathetic ophthalmia may be complicated with scrofula, and assume a good deal of the scrofulous character; or it may be complicated with syphilis, which an examination of the patient's skin and throat, and an inquiry into his previous health, will serve to elucidate. These complications, as well as the arthritic, will no doubt render the symptoms more severe; but they will scarcely influence the line of treatment to be followed.

VIII. The prognosis is so unfavourable, that it is our duty to guard the patient who has suffered an injury of one eye, against the exciting causes of sympathetic iritis, from the very first. When this disease is actually present, even the most active treatment is generally ineffectual. Indeed, I have never seen an eye recover from sympathetic iritis. Renewed attacks have, in every case, terminated in extinguishing vision. Mill is the only exception; but in him we cannot calculate yet on the final result. Any of the exciting causes I have enumerated would again rouse in him an inflammation, which all our applications might fail to check.

IX. Rest, antiphlogistic means, and the use of mercury, are the principal points of the treatment in sympathetic ophthalmia. These means, we have abundant proof, are not very successful. Still, to relinquish these remedies would be wrong.

There is a disease, Mr. Wardrop informs us, frequent in the eye of the horse, having the appearance of a specific inflammation, which usually first affects one eye and then the other, and almost always sooner or later destroys vision. It is known among some farriers, that, if the eye first affected with this disease suppurates and sinks in the orbit, the disease does not attack the other eye, or subsides if it had commenced in it. Thus they have adopted a practice of destroying altogether the diseased eye, in order to save the other; which is rudely done by putting lime between the eyelids, or thrusting a nail into the cavity of the eyeball, so as to excite violent inflammation and suppuration. Mr. Wardrop has frequently succeeded in saving one eye of the horse by adopting this practice; but he destroyed the eye by making an incision in the cornea, and discharging through it the lens and vitreous humour. "In some diseases of the human eye," says he, "where the disease makes a similar progress, first affecting one eye and then the other with complete blindness, the practice so successful in animals might, by judicious discrimination, be beneficially adopted."—(Morbid Anatomy of the Human Eye, vol. ii. p. 139.)

The practice thus hinted at by Mr. Wardrop has actually been adopted, though with a somewhat different view, by Mr. Barton, of Manchester, in cases of injury of one eye with the fragment of a percussion-cap. You will find an interesting account of Mr. Barton's mode of treating such cases, communicated by Mr. Crompton, in the MEDICAL GAZETTE, vol. xxi. p. 175.

The accident in question generally occurs in shooting with percussion-caps, or in discharging them with a hammer—an amusement which is common with children. Mr. Crompton says, that in one of the cases which he witnessed under Mr. Barton's care, the vision of the uninjured eye was nearly lost from sympathetic inflammation, and adds that he thinks it most likely that there would have been a similar termination of the rest, if the plan of laying open the injured eye had not been adopted. Mr. Barton, it is true, opens the injured eye, with the view of extracting the fragment of the cap, on the presence of which he considers the sympathetic inflammation to depend. He not only opens the cornea with the extraction-knife, but cuts away a large flap of it with the scissors. He then applies a poultice, and waits till the fragment is discharged. In the cases published by Mr. Crompton, this practice appears to have not only relieved the patients of the pain they were suffering in the injured eye, but to have arrested the sympathetic inflammation which threatened the other. Is not this, then, good ground to adopt a similar plan, not only in cases where we have reason to suppose that some foreign body is lodged within the eye, but even in other cases, where the one eye being disorganized, and deprived of sight, the vision of the other eye seems likely to be lost by sympathetic inflammation? Where there is a suspicion of some foreign body being within the injured eye, there can be no question that Mr. Barton's practice ought to be adopted; but even in other cases, why should we hesitate to lay open an eye in which vision is extinguished, if the operation affords, as I think it does, a hope of our being thereby able to save the other?

AMPUTATION AT THE HIP-JOINT:

SECONDARY HÆMORRHAGE — DEATH AT THE END OF FORTY-EIGHT DAYS—AUTOPSY.

In January, 1837, I was called to Michael Donnahue, ætat. 25 years, a labourer, having a large tumor of the left femur.

He gave me the following history of his disease:—Nine months previously he had his left femur fractured, about six inches from its lower extremity, by the falling in of a bank of earth under which he was labouring. Before this was properly consolidated, he travelled a distance of about two hundred and fifty miles, on foot. Soon afterwards he noticed a tumor on the outside of the thigh, growing from the place of fracture. It increased rapidly, soon involving the whole circumference of the limb, and nearly the whole length of the femur. At the time when I first saw him, the tumor extended downward to the knee-joint, and upward to within three inches of the trochanter major on the outside, and within three fingers' breadth of the tuber ischii behind; measuring at its largest part thirty-two inches in circumference. As every means for arresting the growth of the tumor had been diligently employed without success, amputation seemed the only resort that offered a chance of recovery.

On the 14th January the operation was performed, in the following manner:—The femoral artery being compressed where it passes over the pubis, by my friend, Dr. Walker, a circular incision was made through the skin and tissues immediately subjacent, about four inches below the trochanter major; the integuments were dissected up, and a retractor applied. The muscles were then divided by a similar incision, and the bone sawed just at the lower part of the trochanter minor. The femoral artery and the profunda femoris were then immediately secured by ligatures. Considerable pieces of cartilage and of diseased cellular tissue were removed from the surface of the stump, and all the small arteries that bled were then secured.

On examining the stump the bone was found to be diseased; its cavity was filled with a reddish, gelatinous, and semi-fluid matter. The periosteum was thickened, and in some parts cartilaginous. I then proceeded, according to my original intention in such a contingency, to remove the bone at its articulation. Dividing the psoas and iliac muscles, and the muscles that come from the pelvis to be attached about the roots of the two trochanters, with a scalpel, and the insertions of the glutei and the capsular ligament with a bistoury, I was enabled with the latter instrument to divide the round ligament, and remove the head of the bone, without the least difficulty or delay. The articular cartilage over the head of the bone was thicker than natural, but the acetabulum appeared healthy. The hæmorrhage was not great, except from the superficial vessels on the first incision; these for a moment bled profusely. Seven ligatures were required.

23d.—Dressed the stump; the four ligatures left out at the lower angle came away; the discharge much diminished and of good pus.

From this period until February 3d, nothing worthy of particular note occurred; the patient's appetite and digestion were good, and all the functions were well performed. On the 3d, the three ligatures that were left out at the upper angle came away. The man continued to do well, being free from pain and uneasiness of any kind, and able to move himself about without difficulty; the wound healing and the suppuration daily becoming less.

Feb. 15th.—A hard tumor is discernible in the left iliac region; he is troubled at night with a dry cough; pulse 110; the wound continues to heal; the discharge from the 16th to the 25th February not amounting to more than f.℥i. in twenty-four hours. In the meantime, the tumor just mentioned increased rapidly, presenting a hard, knotted, and uneven surface.

17th.—The stump is noticed to be slightly swelled; and on examination numerous hard bodies are discovered at various parts of its surface. The cough is severe, and not allayed by anodynes.

20th.—An unusual pulsation is observed about the end of the femoral artery, which appears to be aneurismal in character. Cold applications and compression made to the part, and strict rest enjoined.

26th.—The pulsating tumor, which had gradually increased in size, gave way after a severe fit of coughing. On arriving, I found him weak and exhausted from loss of blood. I proposed to tie the femoral artery, but the patient and his friends refused to permit me. The same means were therefore continued.

From February 26th to March 1st, he failed rapidly; his cough was more severe, his pulse more frequent. The tumor before mentioned extended to the symphysis pubis, and projected above the crest of the ilium; and the projections on the surface of the stump were greatly increased.

March 1st.—At one o'clock A.M. the bleeding recurred, and, the patient consenting, I placed a ligature around the femoral artery, just below Poupart's ligament. The pulsation immediately ceased. He lost no blood by the operation, and did not appear to be much affected by it. He continued to sink, however, and died on the evening of March 2nd, forty-two hours after the tying of the artery, and forty-eight days after the amputation of the limb.

On sawing through the femur and diseased mass longitudinally, the former was seen to be involved in its entire circumference, and from the condyles to near the trochanter minor; its cavity, too, on either side of the fracture, was filled with cartilaginous and semi-ossified matter. The largest part of the tumor sprung directly from the place of fracture: it consisted of alternate layers of cartilaginous and calcareous matter, disposed in form of radii. Other portions, entirely cartilaginous, sprung from the periosteum above and below. Numerous distinct pieces, from the size of a pea to that of a hickory nut, were found in the ham and above the tumor, which were only loosely joined to the original mass by cellular tissue.

On opening the stump, a narrow passage was seen leading directly to the acetabulum, having its surface callous, like that of an old fistula. The acetabulum itself was sound; the cartilage had not sloughed, and its cavity was nearly filled with granulations springing from its edges. The ends of the divided muscles were tipped with cartilage, and similar pieces were imbedded between the muscles. Just at the end of the femoral artery was a sack large enough to contain f.ʒiv., which had given way at its lower part. Above this the ligature was found about the artery; the inner coats of the vessel were divided by it.

On laying open the abdomen, a large cartilaginous and bony mass was seen filling up the hollow of the left ilium, extending downward into the cavity of the pelvis, and upward to near the kidney. The external iliac artery passed through it.

Both pleuræ were found studded with pieces of bone and cartilage, from the size of a pea to that of an almond.—*Recorded by Dr. Brainard, in American Journal of Med. Sciences, August* 1838.

NOTE REGARDING MR. GUTHRIE'S CLINICAL LECTURE.

Westminster Hospital,
Oct. 10, 1838.

THE reporter writing under the signature of "Idios" would feel obliged to the Editor of the MEDICAL GAZETTE if he would state, that Mr. Guthrie feels dissatisfied with the allusion to his bed contained in the last number of the Gazette, because he is represented as endeavouring to persuade his colleagues to use the invalid bed invented by him; and also, because he is said to recommend Desault's splints in *all* cases of fracture of the thigh. Mr. Guthrie emphatically declares, that he merely placed his "bed" in the wards to exhibit its great efficiency, which his colleagues, if they have eyes, could see. He denies that any pain is occasioned by its use to any patient.

He does not employ Desault's splints in any cases of fracture of the thigh, except those arising from gun-shot wounds, where the matter would gravitate towards the hip-joint. On the contrary, he was the first to introduce Amesbury's apparatus into the Westminster Hospital. Mr. Knox's bed is not in use at the hospital, although Mr. Knox has written certificates as to its merit from the physicians and surgeons. Their experience of the efficacy of the bed has been derived solely from their private practice. Mr. Guthrie proposes that one of Mr. Knox's beds be purchased for the hospital, in order that a fair trial of the two should be made: until the result of such a trial be known, he shall continue to prefer his own.

The reporter was in error when he stated Mr. Knox's bed had been used in the Westminster Hospital; the hospitals in which it has been tried, and *not* found wanting, are St. Thomas's, and the Military and Naval Hospitals at Woolwich, Chatham, Haslar, and Plymouth.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, September 27.

Robert Francis Woollett, Usk, Monmouthshire.—Benjamin North Arnold, Birmingham.—John Charles Thomas Nicoll, Worcester.—Henry Stephens, Exeter.—John Morris Beynon, Haverfordwest.—Samuel Robert Kay, Bolton-le-Moors.—Charles William Otway, London.—John Jones, Dinas.—Charles Henry Claridge.—James Williamson, Northumberland.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *Oct.* 9, 1838.

Age and Debility	22	Heart, diseased	1
Apoplexy	9	Hooping Cough	2
Asthma	5	Inflammation	8
Cancer	2	Bowels & Stomach	5
Childbirth	1	Lungs and Pleura	3
Consumption	50	Influenza	1
Constipation of the Bowels	1	Insanity	3
Convulsions	21	Liver, diseased	1
Croup	5	Measles	7
Dentition or Teething	9	Paralysis	1
Dropsy	6	Scrofula	1
Dropsy in the Brain	4	Small-pox	15
Epilepsy	1	Spasms	1
Fever	15	Thrush	2
Fever, Scarlet	9	Tumor	1
Fever, Typhus	4	Unknown Causes	163
Gout	1	Casualties	5
Hæmorrhage	1		

Decrease of Burials, as compared with the preceding week 332

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THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, OCTOBER 20, 1838.

LECTURES ON SURGERY,

DELIVERED AT ST. THOMAS'S HOSPITAL,

BY THE LATE MR. CLINE;

With Notes.

[THESE lectures were written by Dr. Wilkinson when attending Mr. Cline's lectures, in the years 1787-88-89.

Extract of a letter from Dr. Wilkinson, dated Feb. 6, 1838:—"They (these lectures) are the results of six courses of lectures I attended at St. Thomas's, in 1787, 1788, and 1789; and I am in hopes I did not omit any interesting part of Mr. Cline's valuable observations. The one I had the pleasure of giving you is the repeatedly corrected copy."]

LECTURE III.

Fistula in Ano.—Diseases of the Testis: Circocele, Sarcocele, Varicocele, Hæmatocele.—Paracentesis.—Empyema.

Fistula in ano.—This is a fistulous orifice, extending by the side of the rectum, and most frequently having communication with the gut, originating from an abscess forming in the sides of the intestine. It is a very frequent disease, and puts on very various appearances. Sometimes the orifice is situated very near the anus, sometimes at a great distance; not unfrequently it is in perinæo. Sometimes very much on one side; at other times at the extremity of the os coccygis. We have frequently an aperture, two, three, or four inches from the rectum, yet in passing a probe it communicates with the gut. Sometimes there are more openings than one. After one abscess has formed, a second collection of matter may take place, and make an opening in another part. Thus we have three or four openings in different parts near the anus, and not unfrequently all are found communicating with the intestine. It sometimes originates higher up the side of the intestine than at others. When near the anus, it mostly points externally, without any communication with the rectum; but if situated higher up, the patient, after having suffered extreme pain from the formation of the matter, is suddenly eased, from an opening into the gut taking place: the matter is discharged by stool: but it seldom stops here, as when there is a cavity of some size, it goes on ulcerating the sides of the intestine, and at last points it externally; when you have two openings, one in the skin on the outside of the other, in the intestine. Whether the opening has any communication with the intestines or not, it requires the same treatment, for these apertures are very seldom healed without being freely dilated. It is to be considered as an abscess in any other part, followed by a hollow cavity. During the formation of matter such applications will be necessary as will tend to relieve the painful sensations of the patient, such as fomentations, poultices, and the patient must more especially avoid costiveness. When the abscess is completely formed, then the fluctuation may be discovered externally, from the matter having passed under the skin; an extensive opening may now be made; or if suffered to go on till the matter is discharged, and the inflammation abated, it will be in a favourable state for the operation, and will be better than if performed immediately on the first discharge. It may be done in various ways. Some have made use of a pair of probe scissors for this purpose, introducing one blade into the sinus, the other into the rectum. This is rarely practised, owing to the pain it gives. It may be done by intro-

ducing a director along the sinus, then passing in a knife, which divides the rectum as it passes; this is dangerous, as you are liable to wound the opposite side of the rectum, on which account some use the syringotome, which is introduced up the fistulous orifice, and the finger conveyed into the rectum, which is not difficult, for the intestine is very thin, from the ulceration which has taken place on the surface; you easily get the probe through, then bend it within the rectum, bringing it out at the anus, (ligatures have also been used for this purpose). This may be easily done, when the sinus is only a little way up; but if as high as you can reach with the finger, it is very difficult to bend the probe, and to bring it out. The French surgeons use a flexible probe, bringing it out at the anus; then twisting it close to the gut, and leaving it to ulcerate. This is attended with a great deal of pain; but some persons dread the knife so much, as rather to suffer any pain than have it used.

The depth of the sinus should be ascertained by a probe, the patient leaning forwards against a table or chair. Mr. Pott has described a more convenient way than any of these; he uses a curved knife, with a button at the end of it. Having examined the extent of the fistulous orifice, you introduce the knife up the sinus, then carry your finger, oiled, up the rectum, placing it opposite the button of the knife: if there is no opening before, you easily pass the point through to the finger, and by bringing both down together through the anus, you completely lay open the rectum on one side. When the sinus is extending upwards in a direct line by the side of the rectum, this will be done at one stroke; but when the external aperture is situated at some distance from the anus, it will require a different mode of proceeding. We should then dilate the external part first. Having laid open the outer hollow part, you then divide the side of the rectum as before. After it has been laid open, lint should be introduced throughout the whole extent of the sinus; this separates the edges of the wound from each other, that they may not unite; it should remain until it separates of itself, by suppuration coming on; then all that is necessary is the introduction of small pieces of lint, between the external lips of the wound, to prevent its healing up close on the outside, before the granulations have filled up the cavity. The management of it after the operation is very simple, and is now usually attended with success. This mode of treatment has been fully explained by Mr. Pott, and he lays great stress on proper dressings being used after suppuration has taken place. If there is more than one sinus, each should be treated in the same manner as a single one, by dilating them freely, throughout their whole extent. In these dilatations the sphincter ani is cut through, and is therefore incapable of performing its office; hence the patient for some time retains his fæces imperfectly; but in time the sphincter performs its function as before. Sometimes the matter that is forming extends almost round the rectum, near the anus; in this case it will be necessary to carry an incision through the integuments round the rectum, so far as the matter is extended. Besides, it will be necessary to slit up the rectum throughout the whole length of the sinus. In performing this operation you should not cut higher than you can reach with your finger; if higher, a very considerable hæmorrhage may arise from the hæmorrhoidal branches, and in such a situation it will be difficult to stop the hæmorrhage. In such cases a great deal of lint should be introduced, to press against the bones of the pelvis, which lint may be moistened with Spirit. Terebinth., which is a very good styptic, and some threads should be tied round these dossils, so as to withdraw them readily if necessary.

This is a complaint frequently accompanied with some other diseases of the parts, which in such cases renders the complaint very unmanageable. Sometimes there is a diseased prostate gland, on account of which inflammation is taking place in the contiguous textures; an abscess is formed in the cellular membrane, which makes its way into the rectum; in which case it is sometimes impossible to heal the wound, for where there is a diseased portion at the bottom of the wound, it will never perfectly close; also if there is any extraneous substance, as where a person swallows a bone, which, when it gets into the rectum, is forced through the coats of the gut by the forcible contraction of the surrounding muscular fibres getting into the cellular membrane, and occasioning an abscess to be formed. I have known, on opening an abscess of this kind, a piece of bone has come out. In another instance, where I had a good deal of difficulty in healing a fistulous orifice of this kind, there passed out a round calcareous substance, about the size of a hazel-nut, rather of an irregular surface; the wound soon after granulated and healed. Whence it originated is uncertain, but in all probability it occasioned the formation of matter, and protracted the healing till it was removed. We have every now and then by the side of the anus, orifices so very

small as scarcely to admit the head of a common probe, which will continue in that state for some time, occasionally closing and opening. On examination, these are usually found only to extend about an inch, and have no communication with the rectum; if communicating with the external surface of the rectum, the dilatation of them is equally necessary. In some such cases, though you dilate the wound freely, it does not heal; the reason is, that there are some small sinuses which have not been discovered. Where dilatations have been made several times on the outside, all attempts of healing these wounds have been ineffectual, from want of dilating a small undiscovered sinus. In some cases, where the parts are backward in healing, stimulating injections are of considerable service; as syringing the opening with Tr. Myrrh., or applying lint, dipped into it, or into a weak solution of corrosive sublimate, which will stimulate the part, excite inflammation at once, and bring on a disposition to heal. During the cure, we should attend to the health of the patient, because the constitution is frequently in a very weak state.

Castration.—In describing the diseases of the testis, authors make use of various terms—as *circocele*, *sarcocele*, and *varicocele*. By *circocele* they mean rather an enlarged spermatic cord, without a diseased state of the testis itself. In those cases where the enlargement depends upon the spermatic veins, there is seldom any disease of the gland itself. *Sarcocele* is an enlargement of the whole substance of the testis, when its body becomes considerably increased in size, and is a firm solid substance throughout; there is no collection of fluid within, and it is hard: this is called a scirrhous testicle. Sometimes in this enlarged state of the testis it is no harder than natural; at other times it is much indurated. *Varicocele* is improperly applied to any disease of the testis, never requiring any operation to be performed, being simply an enlargement of the veins, which is generally prevented by supporting the part, and making use of proper evacuations. *Hæmatocele* is a collection of blood either in the body of the testis or the tunica vaginalis. Every now and then there is an effusion of blood into the body of the testis, and a very considerable increase of its size, which is not afterwards absorbed. It is blood which forms the tumor; and sometimes, independent of the enlargement of the testis, there is blood accumulated in the tunica vaginalis.

It is only those diseases which produce an enlargement of the substance of the testis that require the operation of castration; this is various in its course, and the enlargement puts on various appearances. Its progress is generally slow. It sometimes arises spontaneously, at others from accidents, as a blow, when a gradual enlargement takes place, which goes on increasing, while at the same time the figure of the testis is still preserved; *e. g.* the body is flattened on the sides, and a little prominent anteriorly, which distinguishes it from the hydrocele, which last takes on a pyramidal appearance, very much rounded, and broad below. After it becomes very much enlarged it loses this form, and becomes equally prominent at the sides as anteriorly. The disease at first is commonly attended with very little pain, but this increases with the size. As the testis becomes enlarged we find an increase of the epididymis, which extends up the spermatic cord; this also becomes harder and larger than before, and that above the abdominal ring.

Some diseases of the testis seem to have no tendency to produce a diseased state of the cord; they are so soft as to give the idea of a fluid, and are found to be formed of a number of hydatids within the substance of the testis. These pulp-like feeling testes are not very unfrequent, though not always from hydatids, but very frequently from the substance of the testis undergoing a change, in which it becomes soft, not much unlike brain in a putrid state. Of this I have seen several instances, in which cases it has very much the feel of hydrocele—a fluctuating feel, and has been sometimes punctured under an idea of there being a quantity of fluid collected, but without any discharge. There is one common appearance when this has existed long, whereby it may be distinguished from hydrocele, viz. the veins of the scrotum are considerably enlarged, putting on a varicose appearance, owing perhaps to a greater quantity of blood being distributed to these parts in a diseased state, which is never the case in hydrocele. The tumor is also much heavier than in hydrocele. In the hardened state of the testis, it is very easily distinguished by the firmness of feel from other diseases. Some of these enlargements of the testis are curable. Diseases of this organ are extremely frequent; and sometimes, where the enlargement has taken place to a considerable extent, you are able entirely to remove it. If originating from a blow, and unattended with pain, the patient generally finds great benefit from emetics twice a week. Topical applications used at the same time, as linseed poultices, and, if very recent, vinegar poultices, are also useful. Electricity is sometimes of service. If the parts

are in a more indolent state, try Sal. Ammon. Crud. c. Acid. Acet. vel Spt. Vin. (℥j. ad ℥j.); also bleeding by leeches. When emetics have abated somewhat of the pain, and yet have not reduced the swelling, mercurials are advisable, which, to a considerable extent, are frequently beneficial. Of this I have seen several instances where, at first, I did not expect any benefit; yet by the patient using it repeatedly, it has very much abated the swelling. However, many cases will not yield to mercury, as those enlargements wherein hydatids are formed, or when the testis has got into the former pulpy-like state; but in such testes as have not gone through these alterations, but are only enlarged, mercurials are of service. But there are some which have not appearances or symptoms by which we can with any certainty determine this; therefore we must first try what medicine will do, and when it has no effect, the operation should be performed. If it remains long the spermatic cord takes on diseased action, which extends along the cavity of the abdomen, and is ultimately fatal.

There is one species of enlargement of the testis where the organ may be saved by an operation without removing it; it is when the swelling has come on suddenly, with great inflammation, and violent pain. In all probability there is an abscess formed in the substance of the testis, which being punctured, will heal. If, on examination, hard tumors are found in the groins, as enlargements of the lymphatic glands or cord, within the cavity of the abdomen, the operation is objectionable.

The operation is a simple piece of dissection, all besides that is necessary is a needle and ligature. The patient should have the parts previously shaved, and be laid upon a table of a convenient height, his legs hanging down. The incision should be begun about the abdominal ring, or a little above; but where the spermatic cord is not enlarged, or the testis very large, at the superior part of the scrotum will be sufficient; it should be carried down to the bottom of the scrotum, a part of which many advise to be removed with the testis, from the idea that there will be so much skin hanging loose as to be troublesome; but this is unnecessary, for after removing the testis the skin contracts so much, that there is seldom any superfluous quantity. The incision should be made opposite the ring. When you have laid bare the spermatic cord, you may take a needle with a broad ligature, holding the spermatic cord up with the finger and thumb, passing the ligature underneath. I think it is useful not to make it directly upon the cord, but to place a piece of lint or rag between, making the knot moderately tight, in order that you may have a perfect command of the ligature after the operation, for very soon after there comes on much tension of the surrounding parts. When you want to remove the ligature it gives a good deal of pain, and this substance is conveniently cut upon afterwards for the removal of the ligature. The first knot should only be drawn moderately tight, then cut through the cord below the ligature, which gives more command of the testis to be dissected out, when, from having only drawn the knot moderately tight, hæmorrhage will take place from the spermatic artery. You then further tighten the ligature and make a second knot, which secures it from bleeding. The reason for making the first knot loose is, that you are uncertain of the pressure which is necessary. In including the cord, it always makes pressure on the nerves, which is the most painful part of the operation, and this may be avoided by only using pressure sufficient to compress the artery. To avoid the pain, some have recommended dividing the cord, and afterwards separately tying the artery;* but there are usually two arteries—one accompanying the vein, the other the vas deferens: besides, this will delay the operation; and the nerves are so small, that you have difficulty to distinguish them from the arteries, so that you may possibly include them; the small branches should be secured as they are divided. The testis being removed, the cord tied, and any other small branches secured, the lips of the wound are to be brought into contact by pieces of adhesive plaster: thus the greater part of the wound heals by the first intention. If the cord is very much enlarged, extending into the abdomen beyond the reach of the finger, the operation should not be performed, as it will be attended with no advantage: but when the cord is but slightly enlarged we ought to give the patient a chance of recovery by the operation, as I have known several do well, though the cord was harder and larger than natural; whereas, in some, where there has been no apparent enlargement or hardness of the cord after removing the testis, disease has taken place within the cavity of the abdomen, and the patient

* Notwithstanding Mr. Cline is averse to this mode of proceeding, it is undoubtedly the best, and is usually adopted at the present day, for the pain produced by tying the cord is much increased by including the vas deferens; and no good is to be derived from such practice.—C.

has died. Also, in three instances of patients whom I castrated, they had a return of the disease, of which they died: two were in this hospital; one a man aged 25. We cannot be always certain that an enlargement of the spermatic cord does not extend into the abdomen. We are in some degree of uncertainty as to the event of this operation in almost every case.

Paracentesis.—This operation becomes necessary when the abdomen is distended with water to such a degree as to impede respiration; also being sometimes recommended with a view of curing the patient, though probably attended with little advantage in that respect. It may be performed for water situated in the cavity of the peritoneum, or where it is collected in an encysted state, as in the ovarium. Adhesion sometimes takes place between the peritoneum and cyst, and has been supposed to be a cyst of water between the abdominal muscles and peritoneum, which could not be. The sign of fluid situated in the abdomen is the existence of a distinct fluctuation: we ought never to perform this operation if this is not evident. If there is much water, by placing the hand on one side of the abdomen and striking the other opposite, you will feel it undulate from side to side—more especially if it be *ascites:* if encysted (only found in women), when the cysts are of considerable thickness, and the fluid gelatinous, which is sometimes the case, the fluctuation is not so distinct; also in some cases there may be adhesions between some of the viscera on the fore part of the abdomen; hence, though a large quantity is accumulated, it cannot be distinctly felt. We should only venture to make a puncture when the fluctuation is evident. I have heard of one case where the operation was performed, and the water successfully discharged, though the fluctuation was much less distinct than usual. It was found that the intestines were adhering, but fortunately not at the part where the puncture was made. This operation is performed with a trocar and a silver canula, which should fit very nicely. Some use a canula with a spout to it: it is attended with great convenience; the water being carried at a greater distance from the patient is not so apt to wet him, and make him uncomfortable. The patient should be placed in a chair upright, having a double-folded sheet round the abdomen, to be held by assistants, one on each side, that they may draw it sufficiently tight to compress the belly, which not only facilitates the discharge of the water, but the moderate pressure on the contents of the abdomen prevents the patient from fainting. The puncture is directed to be made midway between the navel and the anterior superior spinous process of the ilium, towards the left side, about the linea semilunaris. It is ordered at the left side for the convenience of the surgeon, and for the purpose of avoiding the liver. In the usual situation of parts, this would be a very safe one, for it would be some way on the outer side of the rectus. The only vessel in danger of being wounded is the epigastric, which is some way on the outer side of the rectus abdominis naturally, but in a dropsical patient it is different. The rectus muscle becomes expanded in a greater degree than the oblique or transversalis: this carries the edge of the muscles towards the sides, which brings the epigastric artery to about the above space, and it is therefore very liable to be wounded, which happened to myself once. This accident has happened several times before, but the cause was not known. One patient died of hæmorrhage from the spleen being wounded, as I was informed by Mr. Ford. As this is certainly a dangerous place for performing the operation, I always perform it on the linea alba, about an inch below the umbilicus, a very little on one side, in which way the instrument penetrates somewhat more easily. This may be done with the greatest safety, as there is no part there in danger of being wounded. I prefer making the puncture with an abscess lancet, which passes with great ease, while the trocar gives much pain, and requires considerable force. Having introduced the lancet, the water follows, which may be guided by introducing the canula with the trocar. For this purpose, the end of the trocar should be rounded like the end of a probe, thereby saving the patient a great deal of pain. There is a trocar contrived by Mr. André, with a lancet point and steel canula: this is very convenient, for the great ease with which it passes, but has one very considerable disadvantage—the canula is so small, that the water passes off extremely slowly, therefore it is tedious to the surgeon and very fatiguing to the patient; hence better adapted for tapping in the hydrocele. After the operation a flannel roller seven or eight yards long should be applied round the abdomen, and a plaster on the orifice. We are now in the habit of drawing off all the water, whereas it was formerly the practice only to draw off a part. But Dr. Mead, while physician of this hospital, considered that the faintness was produced by want of pressure, and ordered the whole to be evacuated, and the pressure supplied by a bandage. When the

dropsy is encysted, the operation is to be performed in the same way as in ascites, only you have a thicker substance to cut through; when in several cysts, you can only discharge part of the fluid—namely, from that which is opened. By repeating the operation several times, the patient becomes considerably diminished in size. When the patient is weak, the operation may be performed conveniently by laying her on one side, on the edge of the bed, or on the table; this is less fatiguing to the patient, and more of the fluid is evacuated than when she is in the upright position, in which case there will be some left in the hollow of the pelvis, which will not be removed. In ascites the operation is rarely repeated very often, patients seldom surviving its repetition several times, for they generally become debilitated, and after it has been performed a few times, it is generally followed by an inflammation of the abdomen. Instead of the orifice closing, it remains open, and the water is totally discharged, in which case inflammation always takes place in the cavity of the abdomen. It is not so in encysted dropsy. Inflammation is not so liable to come on, and the operation has been performed a vast number of times in some patients *. An encysted dropsy does not equally affect the constitution as that of peritoneum. It is a disease of a part originally small, and patients will go on for a greater number of years, from being tapped now and then. Of this we have numerous instances, and if it was inquired particularly into, those who have survived several operations have been women having encysted dropsies. There are no instances of a man being tapped any considerable number of times—seldom above four or five.

Empyema.—This operation consists in making an opening into the cavity of the thorax, to evacuate some fluid. In the empyema, where there is a collection of pus situated within the cavity of the thorax, it may be known from the fluctuation discoverable at the time; also from the preceding symptoms, where the patient has had pleuritic or peripneumonic symptoms, afterwards followed by a cough and difficulty of respiration, which gradually increases, so that the patient is incapable of lying on one or the other side—only on the side where the fluid is situated. Sometimes, in this case, the inflammation has been more general, both cavities have partaken of it, and pus is formed in both sides, when the patient cannot sleep in a horizontal position, but is obliged to sit upright, supported by pillows, and is assisted by leaning a little forward, thereby relaxing the abdominal muscles. When water is accumulated in the cavity of the chest, so far as to impede respiration, there may be the same occasion for performing the operation. For this purpose a knife and director are sufficient. The incision should be made midway between the spine and sternum, about the middle of the chest laterally, between the sixth and seventh rib; making it lower down would endanger the diaphragm, and if on the left side the heart, and further backwards, would be inconvenient, from the greater number of muscles. The integuments are to be drawn upwards before the incision is made through them, that the opening through the integuments and through the pleura may not correspond with each other, that we may more effectually close the opening after the operation, to avoid the access of air, which would produce fresh inflammation. The incision should be about two inches long, laying bare the pleura, after which the director may be introduced, (the pleura being very thin, is easily lacerated), thrusting it on to the inside *. If the lungs are adhering, it is unfavourable to make the opening there; but it should be made on another part. If not adhering, the incision should be dilated, making the opening about an inch beneath, near the superior edge of the lower rib, to avoid wounding the intercostal artery, which passes along the inferior edge; the director being allowed to remain in the aperture, which should be kept open, and the patient turned on the side in which the opening is made, the matter or water would soon be discharged, when the integuments should be suffered to return to their former situation, to prevent any exposure of the cavity, and the inflammation which would consequently follow. For if the wound was kept in an open state fresh inflammation would arise throughout the whole cavity, which would be fatal in a short time:—we had better be under the necessity of repeating the operation than keep the parts open.

Under favourable circumstances we find that though parts are gone into the suppurative state, the suppuration will cease, the small portion left will be absorbed, and the patient get well.

* Mr. S. Cooper, in his Surgical Dictionary, mentions cases where the operation has been performed twenty-nine times—forty-one—fifty-two—sixty-five—one hundred—one hundred and fifty-five—and, if it be possible to credit Berard, even six hundred and-sixty five times upon one woman in the course of thirteen years!—C.

* It is now generaliy recommended to divide the pleura cautiously with a lancet.—C.

CLINICAL LECTURES ON MEDICINE,

Delivered at the Meath Hospital, Dublin,

Session 1837-8,

By Professor Graves.

Lecture II.

Acupuncture in Anasarca and Ascites—Examination of the received doctrine respecting Bright's Kidneys—Objections to it—Forget's Cases; Morrison's; Solon's—Valentin's Microscopical Examination of Bright's Kidney—Remarks on the daily progress of Erratic or Creeping Erysipelas—Chorea, use of Stramonium in—Chorea in a man seventy-two years old.

Let me direct your attention, gentlemen, to some cases recently admitted, more particularly to one of ascites combined with general anasarca. I do not mean to enter into the history or details of this man's case, as it is sufficient for my present purpose to state that the belly was enormously distended, and the integuments so tense that it was quite impossible to ascertain the state of the liver or spleen; his lower extremities were also greatly swollen. In a case of this kind you have little to hope for from the use of diuretics, for the system is so oppressed by the great quantity of the effused fluid, that it cannot make an effort adequate to effect its absorption. The first step in all such cases must be the removal or diminution of the fluid by means of an operation. In the first place, the fluid might be removed from the cavity of the peritoneum by paracentesis, and the general anasarca might be relieved by allowing the fluid to drain off through small incisions or punctures made with a lancet in various parts of the body. For many reasons, I did not consider this to be a proper case for paracentesis, and therefore determined to try the effects of acupuncturation—a remedy frequently employed in this hospital during the last three or four years, and which, in some instances, has proved successful: I say in some instances, for there are too many cases of dropsy, in which the causes of the disease are of an incurable nature. Under favourable circumstances, and in a good constitution, the simple operation of evacuating the fluid by punctures made through the skin, has been, in itself, sufficient to effect a cure. Thus, in a lady, a general anasarca came on after fever, and resisted every form of treatment I could devise; but when I had made many fruitless attempts to produce absorption by means of internal remedies, another practitioner was called in; he tried acupuncturation of the lower extremities, and succeeded completely. You perceive, therefore, that although mechanical means are not addressed to the cause of the disease, and appear to be nothing more than mere palliatives, they nevertheless may sometimes effect a cure. You will find, in a late number of the Medical Gazette, a very interesting letter from Mr. King, detailing the particulars of the treatment of a case of ascites by acupuncturation. Here, as in the new method of treating hydrocele, the object was not merely to give a vent to the fluid, but to cause it to be effused into the subcutaneous cellular tissue, external to the dropsical cavity; in its new situation the fluid is not only more readily absorbed, but is useful in preventing a fresh deposition within the sac, outside of which the fluid now is, and on which it exerts a very considerable pressure. Mr. King made more than seventy punctures in the space of two or three months, and was perfectly successful. I must refer you to his letter for the very novel and instructive details.

As yet, I have had no opportunity of trying this plan in ascites, but I have seen acupuncturation applied in anasarca on several occasions. I do not think the case before us one of those in which permanent benefit may be expected, but you have all seen that considerable relief has followed a single trial of the remedy.

Most of you have, I presume, witnessed the performance of this operation by Mr. Parr. The needle is passed with a quick motion through the epidermis and cutis, and pushed on until it enters about half a line or a line into the subcutaneous cellular tissue. The punctures are about three quarters of an inch apart, and mark the angles of imaginary squares extended over a considerable portion of the swollen lower extremities. As soon as a sufficient number of punctures has been made, the patient, if able, is directed to sit up and let the fluid drain off. In this way a large quantity of water is withdrawn gradually from the system, and at little or no inconvenience to the patient. While the patient is sitting up it will be necessary to envelop the legs in flannel to protect them from cold, and the feet should rest on a piece of perforated board, by which means they may be kept as dry as possible. It will be also necessary to smear the punctured limbs with fine olive oil night and morning, so as to prevent any bad effects from the contact of fluid. By adopting this simple precaution, you will greatly diminish the risk of erysipelas—an accident not uncommon in such cases, and not unfrequently attended with the most dangerous consequences. When the sick person is confined to bed and unable to sit up, a large piece of oil-silk should be placed under his legs, and they should be enveloped with plenty of finely-carded Georgia cotton

wool*, which is to be changed as soon as it becomes moist. This serves the double purpose of absorbing the discharge, and protecting the limbs from pressure. I look upon this operation as possessing many advantages over the usual mode of making incisions with a lancet, for there is less risk of bringing on erysipelas. Here is one of the needles generally employed by Mr. Parr, — you perceive it is about the size of an ordinary glover's needle, and of a triangular shape. The reason of its being made triangular is, that the puncture of such an instrument is less apt to close, for obvious reasons. The quantity of water which sometimes drains off from the punctures is very remarkable; you have witnessed the vast quantity of fluid which flowed after the punctures in the present case. When the dropsical swellings return, after a temporary cure, effected by acupuncturation of the legs, it is not practicable, in most cases, to have again recourse to the remedy, for the subcutaneous cellular tissue becomes somewhat indurated, and less pervious, in consequence of the certain degree of inflammation which follows this operation: in such cases, some other part of the limb or surface must be chosen.

It is curious to observe the physiological effects of this simple remedy. As there is a communication between the cells of the cellular membrane all over the body, it is easy to conceive that the anasarcous fluid may drain off through punctures in the extremities. It is more difficult to explain how evacuating the water through punctures in the lower extremities can diminish the ascites. There is no direct communication between the cavity of the peritoneum and the general cellular membrane of the body, as may be proved by the fact of persons being afflicted with ascites for months, or even years, without any œdema of the lower extremities ensuing. This fact is quite sufficient to prove that no direct communication exists between the abdominal cavity and the subcutaneous cellular tissue of the lower extremities, and consequently *that* the fluid of an ascites cannot be mechanically evacuated by drains established in the legs. How, then, is the diminution of the ascites produced? By the relief which the general system experiences from taking off an oppressive load of fluid, by emptying the subcutaneous cellular tissue, the general disturbance is lessened, the energy of the absorption increased, and a quantity of the intra-peritoneal fluid is consequently carried off. It is unnecessary to say more respecting the treatment of this case. I shall only observe, that in cases of dropsy, when you have produced a large drain from the system, you must support the patient by means of nutritious diet and wine, combined with full doses of opium*.

The next patient to whom I shall direct your attention is a man named William Barton, lying at present in the large chronic ward, for many years a soldier, and much exposed to the vicissitudes of climate in various foreign stations; he has also been affected with dropsy for the last twelve months. When admitted, he was labouring under confirmed dropsy, accompanied by bronchitis and bowel complaint. He had, in fact, general derangement of the mucous surfaces, with ascites and anasarca. The usual comforts of an hospital, rest, and attention to diet, were the only means employed for the first fortnight, and these proved so far successful that the bronchitis gradually disappeared, and the bowel complaint completely subsided. It was observed, at the period of his admission, that the urine was highly albuminous, and, in this point of view, the case is deserving of attention. He was treated successfully, and as the dropsical symptoms disappeared the urine became less and less albuminous, until at length it was quite natural. This man's urine was examined daily by Mr. Moore, of whose attainments as a chemist I can speak in the highest terms. As I have already remarked, the albumen wholly disappeared, and the urine again assumed its normal character. In this way the man continued for about a fortnight, and, being greatly interested in the case, I had the urine examined every second or third day, and watched the result with the closest attention. It remained still without a trace of albumen. On last Friday, the poor man being apparently convalescent, and walking about the ward, caught cold in consequence of a draught of air from an open window, was attacked with rigors and symptoms of feverish excitement, and next day we found him labouring under erysipelas of the face. While engaged in examining him I asked to see his urine. He said there was none in the vessel, but that he thought he could pass some; and accordingly he did pass about half a pint of healthy-looking urine, but we found it to be highly albuminous, and of the specific gravity 1027. Here, then, is a case which speaks volumes with regard to the pathology of albuminous urine. A man, labouring under chronic dropsy, presents himself for admission, and on examination we find his urine to be highly albuminous. Without any active measures, and almost wholly by the efforts of nature, the dropsical

* French wadding will not answer as well as the finely-carded Georgia cotton wool.

* This man's case was apparently so hopeless, when admitted, that none of the pupils thought it worth while taking notes of its progress. The operation of acupuncture was several times performed, and with the aid of the usual internal treatment, a struggle, protracted for several months, ended in perfect recovery.

symptoms gradually disappear, and the urine becomes *pari passu*, less albuminous, until at length it assumes the natural character, and ceases to exhibit the slightest trace of albumen. This natural state of urine continues for a fortnight, when suddenly he catches cold, gets erysipelas, and in the course of a few hours the urine is found to be highly albuminous again. Before this accession of erysipelas his urine was not only free from albumen, but was perfectly normal; in colour, chemical composition, and odour, resembled the urine of a person with a digestion subsisting on a very nutritious diet. The very hour the erysipelatous disturbance came on there is reason to believe that albumen again made its appearance in the urine; in a few hours it was present in great quantity, although the secretion had a high specific gravity and a deep colour, by no means usual concomitants of albuminous urine. After proceeding for some days in the ordinary way, the erysipelas took a most unexpected and singular turn, extending from the skin by the angles of the mouth to the inside of the cheeks and lips, and finally spreading by the fauces to the larynx, where it produced suffocation. Erysipelas does not in general attack internal parts by extension from the surface. When erysipelas on the scalp affects the brain it does so without creeping inwards through any of the cranial openings. In one case, however, which I treated, fifteen years ago, in the Old Meath Hospital, the erysipelas obviously crept in, *as was proved on dissection, by the orbit;* but this is very rare indeed, and so likewise is the extension of erysipelas from the face to the larynx.

This case gives me an opportunity of directing your attention to the phenomena of that form of erysipelas termed erratic. It is a curious fact that in the majority of cases this disease commences on the bridge or alæ of the nose. It is not of a plegmonous character, and does not engage the subcutaneous cellular membrane to any extent, except where it is loose, as in the eyelids; it depends on an inflammation of the corium, particulary its external layer, giving rise to heat and tingling pain, with more or less redness and a slight degree of elevation, particularly at the margins, where a kind of ridge points out the line of demarcation between the healthy and diseased skin. It is not in general dangerous, rarely requires any antiphlogistic measures, and almost always spreads according to fixed laws. It is usually symmetrical, and its course is, for the most part, uniform, commencing upon the nose, and spreading gradually over the head, neck, and trunk, in a manner which has not, as far as I know, been described by any author. It is comparatively a mild disease, and much less dangerous than another form which attacks the face and head, terminating in extensive subcutaneous suppuration. The latter spreads rapidly, and without any regard to symmetry*; it is often accompanied by high fever, headache, and sometimes delirium and coma, and has attracted much attention from surgeons, as being one of the common consequences of wounds of the scalp, in persons of impaired constitution or irregular habits. But the form of erysipelas which we are now considering differs from this in many points. It generally commences on the nose, about the alæ, from which it extends gradually and slowly over the face, temples, sides of the head, nape of the neck, and back. It is not generally attended with violent fever, headache, delirium, or coma, rarely vesicates, and seldom or never ends in suppuration. Setting out from the median line at the nose it spreads over both the malar prominences, descends over the cheek, sometimes leaving the upper lip untouched, and arriving at the edge of the lower jaw, its downward course is arrested, and leaving the fore part of the neck free, it begins to spread in the opposite direction, engaging the eyelids, forehead, and temples. It does not in general attack the upper or under lip, or the tip of the chin, and this, with its sudden arrest at the edge of the lower jaw, gives to the face a very peculiar appearance. In this and similar instances much interest has been excited among you in watching whether the disease, in its descent along the face, would, contrary to my prediction, reach the front of the neck by way of the skin covering the lower jaw; as yet we have not seen it do so, which is a most curious and inexplicable fact. Having spread over the cheeks down to the lower jaw it then changes its direction, quits the median line still more, and proceeding laterally by the temples, ears, traversing the mastoid process, it arrives on the back of the neck. About this period it not unfrequently throws out little detached patches, which appear, as it were, insulated in the vicinity of the main tract. Having arrived at the interscapular space it sends off wings on either side towards the shoulder, passing over the latter and under the axilla, and descending along the back generally stops there on the loins. It never spreads equally before and behind, but occupies the back and shoulders in some, while in others it proceeds from the nape to the front of the neck, and thence to the sternum and anterior part of the chest. Occasionally it reaches both arms, but rarely, if ever, goes beyond

* In a former lecture published last year, in the MEDICAL GAZETTE, I have more particularly described what I have termed symmetry; it means a uniformity of outline and extent in the erysipelatous portions of the skin at either side of the median line.

the insertion of the deltoids; as it advances, its progress, and the extent of surface which it involves, become every day increased, while, at the same time, the redness declines. It extends much more rapidly in the lateral direction than along the median line, and generally occupies about a fortnight in its advance. As I have observed before, it does not spread merely by continuity of surface, but often throws out little detached islands, and this is the reason why we cannot arrest this form of erysipelas by means of nitrate of silver. If you draw a line before it with nitrate of silver, it undermines, as it were, your line, and appears on the other side without any apparent retardation of its march. Having gone on in this way for a certain space of time, varying from seven to fourteen or seventeen days, and embracing a larger portion of skin on each successive day, it suddenly ceases, its cessation being in general accompanied by increased secretion from the skin, and abatement of the feverish symptoms. No author has noticed the very remarkable fact that the last day's march of erratic erysipelas is, in some cases, its longest,—it is, if I may use the expression, a forced one; it then stops suddenly. But although the extent occupied daily thus increases until the moment the disease terminates, yet, for some days before that event, the parts newly seized are less and less intensely red, and on the last day, during which the greatest progress, or *longest march* as to extent, is made, the skin is but slightly tinged by the erysipelas. In other cases the progress of the erysipelas is different, and, as it approaches the period of its termination, its daily progress exhibits a daily diminution, both in extent and intensity. In a lecture, formerly published, I have spoken of the treatment of this form of erysipelas. Wine and quinine agree well after the first few days from its accession.

This man's kidneys were found somewhat enlarged, and at first I thought they were otherwise natural, but a further examination and maceration convinced us that the cortical substance was paler than usual. Increase of size, paleness, and, *perhaps*, a very slight softness of the cortical part, constituted the whole change; there was no appearance of granulations either on the surface or in the substance of the kidneys. Does not this case, gentlemen, render it extremely probable that the general state of the constitution influences the appearance of albumen in the urine, more than any change in the structure of the kidneys, for here, the same kidney secreted, within a very short space of time, perfectly healthy, and very albuminous urine? This case, indeed, seems to establish the conclusion which I have before advocated in the "Dublin Journal," that Bright's kidney and albuminous urine are effects produced by the same general cause, operating, in dropsy, on the constitution; in this point of view I shall consider them, and my opinion is further confirmed by a very remarkable case, published in the same journal, No. 36, January 1837, by Mr. Morrison, page 474, who makes the following observations:—

"In making a few cursory remarks on the preceeding case I may first direct attention to the albuminous state of the urine. At different periods, during the last five years, this fluid was examined by different practitioners, and found coagulable by heat and acids. Now, I believe it is nearly agreed, that the above state of urine designates a peculiar granulated structure of the kidneys. But here is a case, and it is the only one of which I am aware, that undeniably proves that albuminous urine may be voided even for years, without the existence of even a resemblance of such a structure in the kidneys. Drs. Hacket and Erskine, and Mr. W. Bell, who were present at the examination, remarked that the kidneys presented a perfectly natural appearance, except that of their blanched colours. I have no doubt that Dr. Bright's statements, relative to albuminous urine, will generally be found correct; but I think the foregoing case will bear me out in saying, that exceptions to them will occasionally occur, and certainly it is right, and, in my opinion, not at all detracting from Dr. B., that the profession should know there are exceptions."

This is a subject concerning which I have so often written, that I am afraid of appearing guilty of a needless repetition; its importance, however, will, I trust, prove a sufficient excuse for the following observations. If albuminous urine may be secreted by kidneys in no way affected with the change of structure described by Dr. Bright, then there is strong reason for disconnecting the two, and not considering them as cause and effect. Now, in confirmation of the above case related by Mr. Morrison, I myself have witnessed a dissection of a boy who had dropsy, with highly albuminous urine, after scarlatina, and in whom the kidneys presented a perfectly healthy structure; and Dr. Forget, of Strasburg, has recorded several others. His seventh case*, says the reviewer, "is especially interesting, as it affords an indisputable example of a most complete *albuminaria* during life, when the kidneys were found to be *parfaitement sains, sans anémie et sans granulations.* The heart was hypertrophied and the mitral valve ossified. In Dr. Forget's eighth case the urine was albuminous, but the kidneys per-

* See "Medico-Chirurgical Review," by Dr. Johnson, (New Series), No. 56, p. 544.

fectly sound. This patient likewise had organic disease of the heart."

In Dr. Forget's second case of dropsy, with albuminous urine, the patient recovered, and the urine became healthy. If, then, kidneys of a perfectly healthy structure may and do secrete, and that in numerous instances, a highly albuminous urine, and if, as in the man who gave occasion to these remarks, Bright's kidneys may secrete a perfectly healthy urine, can we attach much value to an hypothesis which seeks to establish a connexion, as cause and effect, between Bright's kidney and albuminous urine? From the time this doctrine was first brought forward, I was led, by my own observations, to doubt its accuracy, and I now feel satisfied that it is incorrect. Let me conclude by repeating what I have said on a former occasion, that in dropsy, where a secretion of an albuminous fluid takes place into the serous cavities and cellular membrane in such abundance, it is easy to understand how the urine may be likewise impregnated with albumen, independently of organic alteration in the kidneys. No gland seems more liable to multiform and often sudden alterations of secretion than the kidney. At one hour healthy, deep-coloured, and of considerable specific gravity, mental motion, or an hysterical affection, may render it the next hour pale, aqueous, and very different in chemical composition. To-day, in consequence of indigestion brought on by error of diet, the urine may be loaded with lithates, and may contain purpuric acid; to-morrow the former have been reduced to their natural proportions, while the latter has entirely disappeared. Again, if a peculiar change in the substance of the kidneys is necessary, to give rise to the presence of albumen, how does it happen that much greater alterations take place, permanently, in that secretion, without apparent deviation from its natural structure? The kidney of the lithic acid diathesis differs not from the kidney of the phosphatic, and in alternating calculus we do not find the renal organization varying as the urine contains, at different stages, a superabundance of lithates, of phosphates, or of oxalates. Why should the secretion of a simple animal principle, like albumen, require a change of structure in an organ which can accomplish the formation of such a variety of products, retaining all the time its ordinary size, consistency, and colour? This reasoning, together with the cases adverted to above, leaves little room for doubt on the question at issue.

We have seen it assumed that *renal hyperæmia* of an active nature constitutes the change the kidney undergoes; I have already remarked that no two conditions of an organ can be more dissimilar than this hyperæmious state, and the yellow granular degeneration forming the extreme specimens of the disease; and yet we are taught that each of these morbid conditions of the kidney, not only differing from, but opposed to each other, gives rise to the secretion of albuminous urine. I have already shewn that albuminous urine is often secreted by healthy kidneys; and Dr. Solon, who has lately published, at Paris, a very learned work on this subject, admits that in his twentieth case the albumen disappeared during four days, *at least*, before death, and yet the kidneys were hyperæmious. An acute and intelligent reviewer of Dr. Solon (Lancet, June 23, 1838), remarks, "In alluding to those cases, distinct from Bright's disease, in which albuminous urine is found, Dr. Solon justly observes that they in no-wise disprove the connexion which may exist between the renal lesion, and that condition of the urine. The only fact," he continues, "capable of doing so, would be the existence of the renal disease, well characterized, without albuminous urine. Now, this has never been observed."

This I am very willing to admit, but draw from it a very different conclusion, *for to me it appears that the albuminous state of the urine is the cause of Bright's disease, and not the consequence.* In dropsy, a tendency to excessive secretion of albuminous fluid is observed all over the body, and in the kidney as well as in other parts; now as the secretion of urine takes place in extremely minute tubuli in the cortical substance of the kidney, and as its secretion is accompanied by the formation of various salts and acids, no wonder that *a deposition of albuminous molecules should be separated by coagulation, and should remain in the secreting tubes, which they gradually fill and distend, and thus give rise to an obliteration of tissue, termed Bright's disease.* This is a new, and, I think, a correct view of the subject, and is confirmed in a striking manner by the following microscopical observations very recently made by the celebrated Valentin:—

"It admits, no doubt, that the degeneration of the kidney, described by Bright, stands in direct proportion to the excessive quantity of albumen contained in the urine. It is not, however, yet discovered what may be the cause of this relation. Microscopic research, in remarkable cases, may be able to afford more accurate information on this point. For example, we found on the post-mortem examination of a boy, æt. 13, who, for a long period, had been afflicted with dropsy and œdema, and whose urine sometimes contained albumen in immense quantities, sometimes very little, not only effusion into the chest and abdomen, but remarkable granulation of the kidneys in the fifth stage. Both kidneys were excessively enlarged:

their greatest length was 3″75; their greatest breadth 2″. This enlargement did not exist in particular spots only, but engaged the whole substance of the kidney, and was smooth and uniform, and similar to the increase of volume assumed by a well-injected organ. Externally were to be seen the solitary ashy grey specks; internally, the tissues, particularly the cortical, were tinged of a deep yellow colour. Microscopic examination shewed that, while the stretched tubuli uriniferi of the mamillæ were either empty or filled with a little fluid, the tubes of the cortical substance contained a yellowish grey mass throughout, so as to be rendered, in a certain degree, visible, as if injected. It only required a fine incision, in a clear light, to see in the most distinct manner the beautiful windings of the urinary canals in this state of injection, even in cases of moderate enlargement. The measurement of these, in the cortical substance, in the centre, was about 0.003500 P.ʒ*; in the mamillæ 0.005400 P.ʒ. Nothing abnormal could be perceived in the walls of the canals, nor in the substance placed between them. One kidney was finely injected. The distribution and diameter of the blood-vessels, as well as of the corpora Malpighiana, exhibited no irregularity. The mass which filled the incised canals, of a greyish-yellowish hue, consisted of irregularly granulated bodies of greater or less size, little molecular bodies, and round yellow little spheres. Similar appearances were found in the elongated canals, only in a less degree.

"If I am not much mistaken, this discovery in the kidneys goes far to prove that, in this case, the kidneys are only the receptacles of the diseased urine, and that they, on a cursory glance, have only the appearance of being diseased themselves, whilst, on the other hand, the diseased process of secretion must be sought for, not in the kidneys, but elsewhere; as, for example, in the blood, for it is well known that the urine can be secreted without kidneys."

There is an extremely interesting case at present in the chonic female ward; I allude to the girl labouring under chorea. Mary M'Donnell, now 16, well made, and generally enjoying good health, has had several attacks of chorea. The first commenced seven years ago, and was attributed to fright. It was accompanied by aphonia, and lasted for some weeks. About three years since she was under Dr. Stokes's care, for a similar attack, but without any loss of voice; was leeched over the spine, and dismissed cured, after a seven weeks' stay in the hospital. On her last admission she was found to labour under chorea in an aggravated form, having involuntary motions of almost all the voluntary muscles, including those of the face and tongue, the motions being rather increased at night, and depriving her of sleep. She had no headache or pain in the back; the heart's action was quickened, but normal; the pulse 108; bowels constipated; tongue slightly furred; considerable flatulence. The catamenia appeared about eighteen months ago, and have continued regular. This last circumstance is calculated to diminish, very much, the importance attached by some persons to menstrual irregularity as the cause of chorea. Here the menses were quite regular, and yet the symptoms of chorea were of an extremely aggravated character. Besides, the occurrence of the disease in males, and before the age of puberty in females, is quite sufficient to shew that the derangement of the menstrual function cannot be classed among the causes of chorea. In the case of a young lady, whom I attended some time ago, with Dr. Marsh and Mr. Mulock, the recovery was complete, and yet the menses did not appear until five months afterwards. I may observe, too, that in the case of this girl M'Donnell there is no reason to suppose that the disease depends upon subacute or chronic inflammation of the brain or spine. It is essentially a disease of the nervous system, but there are no grounds for inferring that it is connected with inflammatory action. Chorea has been defined as consisting of irregular motions of the voluntary muscles, continued while the patient is awake, interfering with and deranging the efforts of volition. It bears some analogy to paralysis agitans, subsultus, delirium tremens, and similar diseases, but differs as to its cause, the period of life at which appears, the state of the sensorium, and many other particulars. It generally ceases during the hours of sleep, and in this way the system is enabled to recruit itself when fatigued by long-continued muscular action; but in the case of this girl the movements are increased at night, adding greatly to the distress of the patient, by depriving her of rest. The day after her admission she was ordered to take aperient medicine, to have her head shaved, and use the tepid affusion three times a day. Under this treatment some transient relief was experienced; the irregular action of the muscular system ceased for about half an hour after the affusion, but returned again, and the disturbance of sleep remained undiminished. The tepid affusion was tried with great care and perseverance, and totally failed, which is remarkable, when we recollect how extremely efficacious it proved in the case of the young lady before spoken of, and whom it saved from the most imminent danger. This is a proof, if proofs be wanting, of the vanity of hoping that we can find any remedy capable of always pro-

* The decimal numbers are referred to a Parisian inch, as unity.

ducing a given effect on any nervous disease. The patient was now ordered to take thirty drops of the solution of muriate of morphia, twice a day, and this proving ineffectual, the dose was increased to forty drops. This treatment was continued for three days without any benefit; on the contrary, the irregular motions became more violent, and the state of watchfulness unaltered. She was now directed to take, three times a day, a pill containing the sixth of a grain of extract of stramonium, followed by a draught containing a dram of spirit of turpentine. This was on the ninth; on the tenth she is reported to be much improved, and to have slept for some hours during the night. Her pupils, however, were greatly dilated, so that it was thought advisable to discontinue the stramonium for some time. On the twelfth she was able to resume the use of stramonium, of which she took four doses in the day, with marked improvement in her symptoms. The spasms were notably diminished, and she was able to enjoy four or five hours' comfortable sleep at night. The effect of the stramonium and turpentine was very striking, and the rapidity with which ease and comfort were induced, in place of inquietude and suffering, excited much surprise among you. I now regret, that in consequence of having given the stramonium and turpentine simultaneously, we cannot, with certainty, say to which the cure was owing: as the stramonium was also given in the other successful case, it is possible that it may have been the chief instrument of cure in both.

A question arises here, whether we could have effected a cure, in this case, by tonics? I think not; where the nerves of the whole system of voluntary motion are deranged, we cannot expect to derive much good, at least in the commencement, by the use of tonics. The remedies in which we can place most reliance, in such cases, are those known to possess the power of controlling spasmodic action. Among them, musk, turpentine, and stramonium, hold a very high rank. You are all aware of the benefit derived from musk in the treatment of subsultus; it has been long used for this purpose, and it deserves the reputation which it holds. Turpentine is another remedy of great efficacy in convulsive affections; in epilepsy, in the convulsions of children, and in the subsultus of fever, I have frequently employed it with advantage, and can bear ample testimony to its value; but, as I said before, I think that, in the present instance, the improvement is to be attributed chiefly to the stramonium.

I am at present attending a very remarkable case of chorea along with Dr. Gordon Jackson. The patient is *seventy-two years of age*, and the disease gradually increasing has reached the greatest possible degree of violence. The occurrence of well-marked chorea at such an advanced age, is, I believe, unprecedented. The patient is a medical man, and has been visited by Mr. Colles, Mr. Crampton, and others, who all agree as to the nature of the disease.

Speaking of turpentine puts me in mind of a curious case which came recently under my notice. You are aware that turpentine is extensively used in the treatment of tape-worm. The usual mode of administering it is to give from half an ounce to an ounce, either alone or combined with castor oil. A gentlemen of my acquaintaince who laboured under tape-worm, and had taken a variety of remedies, among others spirit of turpentine in the usual doses, was advised to try a very large dose of the spirit of turpentine. He took three ounces at once, and nearly killed himself; the turpentine produced the most violent irritation of the bowels, hypercatharsis, and intense excitement of the nervous system. He suffered for a long time from the effects of the dose, and to add to his misfortune, it failed of accomplishing the end for which it was taken. About half a year afterwards, while still labouring under symptoms of tape-worm, he was persuaded to try turpentine again in half dram doses twice a day. He continued this for a considerable time, until the system became, as it were, saturated with the turpentine, and then began to pass portions of tape-worm daily, until the whole came away and he recovered completely. Here, you perceive, small or alterative doses succeeded, where an enormous dose had failed.

CASES OF

MUSCÆ VOLITANTES;

WITH REMARKS ON THEIR PROXIMATE CAUSE.

By W. C. Wallace, M.D.
Oculist, New York.

(*Communicated by Dr. Forbes, of Chichester.*)

Case I.—A very intelligent gentleman, from Newark, N. J., consulted me some time ago about a network which appeared before his eyes, and impeded vision. While describing his complaint he drew with his pencil a representation of part of the vascular coat of the retina, as perfectly as if he had had a preparation of the membrane before him for a copy. I took an unusual interest

in the case from the drawing, and obtained the following account of it:—

"The appearances before my eyes are drawn as correctly as I am able; they do not appear stationary, for when I suddenly throw my eyes up they will also go up, and appear to rise above the object upon which I fix my sight; they then move slowly downward, and sink below the sight, sometimes a little on one side, and at other times exactly in the way, so as to cover a letter or figure at which I may happen to look. I can still see the object, though imperfectly, as if through thin gauze or something of the kind, which dims the sight a little. When they get on one side of the sight, and I attempt to turn my eyes to get a more perfect view of them, turning my eyes appears to turn them also, and they keep at about the same distance. When my eyes are open they do not appear so large nor so plainly as they do when I partly close my eyes. When I fix my sight upon an object, and look steadily at it for a moment or two, without moving my eyes, they will disappear; but the least motion of the eyes will bring them back again as plainly as ever. I have two or three different times noticed a kind of motion, as if caused by hundreds of small insects darting to and fro, when I looked up in the air, in strong day-light. The distance of the network appearance seems to be regulated by the distance of the objects at which I look. If I look at an object half a mile off they seem considerably farther from me than they do when I look at an object which is only two or three feet distant. The appearances are worse after a hearty dinner or loss of sleep, and they trouble me least when I feel otherwise well."

As there seemed considerable bilious derangement, I prescribed an emetic, and alterative doses of calomel. I also recommended regular cupping every two weeks, cold applications to the brow and temple, a loose neckcloth, and to avoid whatever might occasion straining. He is now much improved; the network is scarcely visible.

Case II.—The studies of a young gentleman at Princeton College were interrupted by a network, which was always present, and impeded vision. The regular application of leeches was recommended, but they were not applied. Cold applications and aperients had no effect; mercury and iodine were tried without benefit. The loss of blood was again urged, and the patient was immediately relieved after the application of cupping-glasses to the temple. By weekly repetition of the cupping he soon became quite well.

Case III. — A theological student consulted me about hundreds of moving globular specks which, without any other morbid symptom, were constantly floating before his eyes, and caused much inconvenience and anxiety. At the end of a year after the first consultation he was not at all benefited, after having made use of mercury, iodine, strychnia, &c., and after having been repeatedly cupped and blistered.

Case IV.—The writer was for upwards of a year annoyed by a floating musca, similar to a portion of the soot produced by burning turpentine. After having had to undergo a course of mercury for an attack of granular conjunctivitis, the musca entirely disappeared.

Remarks.—The spots which, without external existence, appear before the eyes, assume a great variety of forms. To some they appear as an insect's wing, a spider with long projecting legs, a network, a branch, or an angular or straight line; to others as twisting or undulating hairs, a string of beads, a shower of opaque or transparent globules, separate or united; or they are represented as tufts of black cotton, or the black particles produced from smoke. They are more distinctly observed when the eyes are exposed to intense light, as looking long at white objects well illuminated, at flame, or at a clear sky.

Various opinions have been entertained about the nature of muscæ volitantes. Morgagni supposed them to arise from thickened lachrymal humour formed on the cornea. On account of their motion, Delahire thought they arose from substances floating in the aqueous humour; and to support his opinion he made the following experiment. He received upon white paper the rays of the sun through a pane of glass in which there were vesicles and filaments, and the imperfections in the glass appeared on the paper as the bodies in question on the retina*.

To ascertain if Delahire's opinion were correct, Demours opened the cor-

* Demours.

nea and evacuated the aqueous humour, as had been proposed by Leroy, without the least diminution of the appearances. He consequently concluded that the seat of the disease was the humor Morgagni, some small portions of which, without loss of transparency, had acquired a greater density and refrangibility.

As it is obvious that the light refracted by the lenses of the eye, and received upon the retina, cannot be compared to the passage of light through a pane of glass, I modified Delahire's experiment, by substituting a double convex lens which contained a number of striæ. I found that the shadows of these striæ were visible upon a screen at a certain distance from the glass, but at situations far beyond its focus. When the screen was moved toward the focus, the inverted picture was not in the least interrupted, nor were shadows produced on the picture by placing small bodies before or immediately behind the glass. Hence we may conclude that spots or filaments in the lens, or anterior or immediately posterior to it, cannot be represented on the retina.

Most people in ophthalmic practice have seen small fragments of capsule remaining in the pupil after the operation for cataract, and have found, on inquiry, that vision was not disturbed by a fixed or flying musca; nor are these symptoms produced by small ulcers on the cornea. A case occurred to Mr. Ware, in which, after the removal of a cataract, a white opaque particle, about the size of the head of a small pin, moved continually upward and downward, near the centre of the pupil. Though very perceptible to observers, it was wholly unperceived by the patient, and neither interfered with vision nor occasioned the slightest appearance of a musca volitans. I have myself operated for the removal of a fragment of capsule which floated in the pupil; and though, previous to the last operation, the vision was partially cloudy and wavering, there was no appearance that might be compared to those under consideration.

Guided in his opinion by the principles of optics, Pitcairn thought the disease arose from congestion or varicosity of some of the blood-vessels of the retina. By Willis it was attributed to insensibility of certain filaments of the optic nerve.

"The fixed musca," says Mr. Travers, "is generally an organic affection, probably a deposit or extravasation between the choroid and retina, compressing to a certain space the papillæ of the retina, to which the musca corresponds in figure. In other instances it is independent of deranged structure, and may be presumed to be only an insensible spot of the retina."

In his memoir on the subject, published in the fifth volume of the Medico-Chirurgical Transactions, Mr. Ware states "that it is not easy to ascertain the proximate cause of these moats, but from the constancy in their figure, and their frequently long continuance, it seems probable that they depend upon a steady pressure upon one or more minute points of the retina, which are situated near the axis of vision, but not exactly in it. The pressure must be near this axis, because the moats always appear near the objects that are looked at; but it cannot be in the axis, because the moats do not injure or impair their natural appearance. As the pressure is not in the axis, the outline of the moats is always somewhat obscure, and the exertion that is made to bring the moats into the axis by moving the eye, gives them an apparent motion, which is sometimes upward and downward, and sometimes from side to side. That the *tunica retina* is liable to be affected by this partial pressure, may be fairly inferred from an examination of the structure of this tunic in connexion with the parts that are contiguous to it. The retina in a recent human eye has the appearance of a plain, uniform, transparent, pulpy membrane, which surrounds the vitreous humour, but is unconnected with it. On a close examination, it is discovered to be composed of two substances. One of these is an exquisitely thin membrane, on the inner side of which, in the fœtal subject, many blood-vessels may be traced, and on the outer a medulla is spread, which lies in contact with the inner concave surface of the tunica choroides. This concave surface of the choroides, when well injected, has been said by Tina to have a villous appearance, produced by innumerable short flocculi, which are exquisitely minute, and indeed they are imperceptible to the naked eye. They are covered by a black mucous substance, called the pigmentum nigrum, which is so equally spread over the retina, that when the person is in

health it only serves to render the retina duly susceptible of the impressions made upon it by the light transmitted from external objects. When, however, a morbid sensibility is excited, like that which general debility or much anxiety is apt to occasion, the retina (which has a larger quantity of nervous medulla spread over it, in proportion to its dimensions, than any other part of the body) becomes morbidly impressed by any little points or projections that happen to be in contact with it. This morbid impression may be occasioned either by the pressure of small portions of lymph diffused irregularly between the choroid coat and retina; by some minute particle of the pigmentum nigrum, larger or more uneven than the rest; or by one or more of the minute villi of the choroides itself, and such a pressure, however it be occasioned, is sufficient, in my apprehension, to produce the image of an object similar in every respect to that of a real object so situated that light proceeding from it would have produced a similar impression upon the retina.

As it is only by a knowledge of structure that we can acquire a philosophical view of disease, we shall examine the descriptions of the retina by the authors most frequently perused.

Mr. Ware, as already quoted, says, "the retina in a recent human eye has the appearance of a plain, uniform, transparent pulpy membrane."

Sir Charles Bell, in his Bridgewater Treatise*, which is his latest publication, says, "there is no fibrous texture in the matter of the nerve" (meaning the retina;) and again, when combating Herschel's hypothesis of vision, "it appears to me natural to suppose that if these fibres of the nerve (which, be it remembered, are also imaginary,) were moved like the cords of a musical instrument, they would be most easily continued in motion by indulations in the same time," &c.

The most modern work on the structure of the eye which I have seen, is that of Dalrymple, published in 1834. His account is as follows:—Several of the older anatomists, amongst whom we find the names of Ruysch and Briggs, assert that the retina is composed of minute fibres, evidently derived from the fibrous appearance of the optic nerve, and thence radiating in the form of a star. Haller denies this, and attributes the appearance in question to certain plicæ or folds, into which the retina probably falls, by the evaporation or dispersion of the fluid of the vitreous body after death. It has assuredly never happened to me to observe any fibres, or any appearance that could be mistaken for fibres, in a recent human eye. Let us now appeal to nature for the correctness of these assertions.

When the inner surface of the choroid is examined with a microscope, in place of the villi of Tina and Ware we find a number of hexangular plates forming the membrane of Mondini, upon which are deposited the granules of the pigmentum nigrum.

When the convex surface of the retina is exposed under water, and scratched with a scalpel, a membrane of great delicacy may be separated, and turned over with the assistance of a camel's hair pencil. This is the coat of Jacob. When the same preparation is allowed to putrify, and the nervous matter washed away with a camel's hair pencil, the vascular membrane may be exhibited. The ramifications of the blood-vessels in this membrane resemble those of the veins of a leaf after the soft part has been eaten away by insects, and by their inter-texture they form a semi-opaque screen, on which is received the image of external objects; just as the ground of a camera obscura, or the screen of a magic lantern.

The nervous matter may be divided into two layers. By allowing an eye to macerate in alcohol, for the purpose of preventing the retina from collapsing when the anterior half of the eye is cut off, and pouring upon the retina thus exposed a watery solution of corrosive sublimate, the fibres may be seen lying beneath the vascular membrane, when they are separated from each other by a camel's hair pencil. In young animals, especially in the calf, the fibres are more easily exhibited than in those which are old. In the human eye, some of them converge round the central foramen. By pouring upon an eye exposed in the same manner an alcoholic solution of corrosive sublimate and muriate of ammonia, the fibrous coat becomes so compact and hard that it may be torn off with forceps, and a layer of globules will be brought into view. These globules are kept in place by the coat of Jacob already described.

* American edition.

The retina, then, consists of four layers—a vascular, a fibrous, a globular, and a serous.

By this exposition of the retina we may account for the various appearances of muscæ volitantes. I have occasionally, when entering an ordinarily lighted room, after a full meal, and exposure to a bright light, witnessed glimmerings like a network, which, from its resemblance to the vascular coat, left no doubt in my mind that the blood-vessels of the retina were visible. At other times, in the same circumstances, there was a twisted tube, or a chain of beads, as if there had been an error loci of one of the curved fibres of the retina; or there was a cloud of globules, sometimes packed together, but more frequently separated, and floating in all directions. Each globule was visible for a considerable time, and repeatedly re-occupied the same space. When clustered together, they had a great resemblance to the globules of the retina.

From the similarity of the drawing of the floating network in Case 1, to the vascular coat of the retina, I am persuaded that any person who has seen both will have no hesitation in locating the disease: and if the network, curved filaments, and globules, appear to others as they do unto me, the various muscæ will be ascribed to affections of the structure which they resemble.

Beer observed in some cases that the vessels of the vascular membrane had been varicose. Dr. Wardrop, in his Morbid Anatomy of the Eye, states that "it was observed by Sauvages, that the pulsations of the optic artery might be perceived by looking intently at a white wall, well illuminated. A kind of network, darker than the other parts of the wall, appears and vanishes alternately, with every pulsation. This change of colour in the wall he ascribed to the compression of the retina by the diastole of the artery. Richter mentions the case of a plethoric person, who, when he held his breath, and looked at a white wall, perceived a kind of network, which alternately appeared and disappeared with the diastole and systole of the arteries. Mr. George Young saw a cadet at Woolwich, who, from being obliged to wear a very tight neckcloth and collar, had his sight much impaired."

When, while the eye is directed forward at a distance, we move a lighted candle up and down, on one side of the line of vision, a representation of the vessels of the vascular membrane shortly appears, as if displayed on a screen. The vessels are greatly magnified, on account of the portion of the retina which they occupy compared with that of an ordinary image. We may hence infer that a very minute congestion may cause a large musca.

It is stated by Demours that the diameter of a musca appears to increase in proportion as we recede from the plain in which it is examined. Such a filament as appears one-sixth of a line in diameter, and one inch long, when seen on a leaf of very white paper, at the usual focal distance, appears two lines in diameter, and more than a foot long, when we examine it by looking at a white wall, at the distance of twenty or thirty feet; and in the only case in which he mentions the subject, Mr Ware says that the magnitude of the moats depended much on the distance at which they were observed, being larger when seen far off, and smaller when near the eyes.

Can the enlargement be owing to the compression of the vitreous humour against the retina by the lens, when the eye is adjusted to distant objects? and can the diminution arise from the less degree of pressure as the lens approaches the cornea when adjusted to near objcets?

It was discovered by Magendie that when the fifth nerve was cut across, the animal became blind. Sir Charles Bell discovered that each organ is supplied with two sets of nervous fibres, one for sensation and one for motion. As the papillæ of other nerves become erect when excited, it would seem that the fifth, which is a compound nerve, enables the expanded fibres of the optic nerve to be placed in a proper condition for conveying a distinct impression to the sensorium. Should there be any unusual turgescence of the vascular membrane, error loci of the filaments or globules, caused by a diminished supply from the motor nerve to the sentient fibres, effusion of lymph or varicosity of the choroid, the fibres will not be free to the action of light, but will convey false impressions; and there will be an appearance of motion, when during their erection or tension the fibres come in contact with diseased vessels, filaments, or globules.

As the image of a grain of sand, or a still smaller object, must be very minute when represented on the retina, a very

slight movement of the fibres would make the distended vessels seem to pass over a great space.

It is difficult to keep the eye on one object for a long time, but when it can be accomplished the retina soon becomes fatigued, the fibres lose their tone or tension, and the object disappears. As soon as they have rested or received an additional supply of motive nervous power, the object comes again into view, and there is an alternate disappearance and reappearance of the object as long as the experiment is continued. If, when the light is very obscure, we look intently at a feebly illuminated object, the fibres, in endeavouring to adapt themselves to the degree of light, soon become painfully affected, and the object is no longer visible. *

The connexion between the second and the fifth pair of nerves may explain why there is a halo round luminous objects during catarrhal ophthalmia, when the distended vessels press upon the filaments of the latter, which are so abundantly spread upon the conjunctiva; and why in strumous ophthalmia there is such intolerance of light when the nerves are irritated by exposure in consequence of ulceration of the anterior membrane.

I have noticed that pressure on one part of the retina conveys an opposite impression to the brain. If I shut my eyes and press the retina of one of them with a finger on the outside, the circle of light which is thus produced will appear as if proceeding from the inside. If I press above, the circle will seem below; and if I carry the finger completely round the eye, the light will always be opposite to the finger. Hence we may conclude that the upper part of the retina is diseased if the spot is seen below, and *vice versâ*. We may also thus account for erect vision, although the image of objects is inverted.

ON THE NATURE OF VACCINATION.

To the Editor of the Medical Gazette.

Sir,

I have read with much interest and satisfaction, in your journal for September 15th, Mr. Estlin's letter on the subject of Vaccine Virus obtained fresh from the Cow. Of the importance of obtaining from its original source the means of propagating the vaccine disease, most professional men have been for some time well assured, and the difficulty of effecting this object has appeared somewhat extraordinary. In Jenner's time did any such difficulty exist? and if not, as I believe, whence, I would ask, has it since taken place? In this question is, perhaps, involved another of still greater interest. Whence did the disease originate in the cow? It is well known that Jenner supposed it to arise from inoculation with the matter from the heel of the horse affected with grease. But are there not still greasy horses? And if from this source so frequently formerly, why so rarely in later times? This fact would lead us to inquire, whether some other cause was not in operation to produce the disease in the cow, which, since Jenner's discovery, has been of less frequent occurrence? and whether that discovery is not itself very closely connected with the less frequent occurrence of the vaccine pustule on the teats of the cow? If it should be ascertained, as appears very probable, that the cow was, in the first place, infected by the hands of a milker who had lately been affected with small-pox, not only would a very interesting and important fact in physiology be brought to light, but a very valuable practical fact also, inasmuch as it would give us the power of obtaining at will, during the prevalence of small-pox, a fresh supply of mitigated virus, by passing the disease through the system of the cow, which might be done in any part of the world.

The analogy between the vaccine disease and small-pox, the extraordinary protective power of the former from the infecting influence of the latter, and the rare occurrence of it in the cow itself since the small-pox has been rendered less frequent by the practice of vaccination, have long induced me to believe that cowpox was really a form of small-pox mitigated by passing through the system of another animal.

Should Mr. Estlin have opportunity of verifying or disproving this supposition, I am sure that he will render an essential service to human nature by availing himself of them, and will settle a physiological question of much interest. He will perhaps permit me, therefore, to invite his particular attention to the solution of it, and to assure him that, what-

* Sir D. Brewster.

ever may be the result, he will greatly oblige the writer of this note.

I remain, sir,
Your obedient servant,
T. M. GREENHOW.

Newcastle-upon-Tyne,
October 7th, 1838.

ON THE NEW VACCINE VIRUS.

MR. ESTLIN'S SECOND LETTER.

To the Editor of the Medical Gazette.

SIR,

THE letters I have received from various professional men, in consequence of my communication inserted in the GAZETTE of the 15th of September, convince me that my own anxiety to procure a supply of fresh vaccine virus from the cow, has not led me to overrate the interest of many of my brethren in the same object. The favourable light in which they are pleased to view the very moderate exertions I have had to make, cannot but be gratifying to me; and I feel it due to them to report the result of the farther experience I have had of the new lymph.

In my former letter I stated, that the lymph brought to Bristol from the Gloucestershire farm, and successfully employed in inoculation, was removed from the cow only two degrees, having passed through one of the milkers, and the child Jane, inoculated from her. I have now (October 10) under vaccination the sixth set of Bristol patients.

A very few only have been unsusceptible of the disease, and there has, upon the whole, been much uniformity in those characters which appear to me to distinguish the new lymph from that commonly employed. I refer to a larger, and longer-continued areola, more constitutional disturbance, and a much deeper indentation left on the arm. The depth in the cellular membrane to which the vesicle extends, is a marked feature in the new lymph. In some cases under my care, when during the third week the scab has been rubbed off, there have been deep, though not wide, circular cavities, that would have contained the whole of a pea not of the smallest size. The scab, if not rubbed, has seldom come away before the fourth week.

The period of teething being that during which children are most commonly brought for vaccination, it is not always easy to discriminate between the consequences of the inoculation, and the irritation from the teeth; and the mothers certainly often attribute to the cow-pox, symptoms which dentition produces; but I am satisfied I have in some instances seen vomiting occur, at intervals, during the first week, in consequence of the vaccination. One child, vaccinated in four places, very near to the shoulder, had the vesicles so much disturbed by the dress, as to present rather deep circular ulcers on the fifth day: much inflammation accompanied the progress of the vesicles for about a fortnight, and two abscesses have formed in the axilla, one of them five weeks after the inoculation, and even after the cicatrization of the vaccinated spot. A scrofulous child whom I vaccinated on one arm with lymph taken on the eighth day from the other arm, had an abscess produced on the spot of the second inoculation, which I was obliged to open: it contained thick pus, had been twelve days in forming, and showed no trace of the inoculation. A similar abscess had formed under the child's chin previously to his being vaccinated. One or two more have had an abscess in the axilla.

More general cutaneous affection has been produced by this lymph than I believe to be often seen after the employment of the common matter. In some children a slight vesicular eruption has appeared during the first or second week; in others, rashes have come on at various periods, even after the third week. Though the parents have occasionally expressed uneasiness at these unusual cutaneous accompaniments, they have generally been pleased with the severity of the complaint, although so much greater than they have been accustomed to see, believing that more complete security against small-pox was thus ensured. I mention all these circumstances without any regard to the impression they may convey respecting the value of the new virus; my only desire is, that others may have the same means of forming an opinion that I have, in order that its merits or demerits may be investigated. I must consider the evidence of its being even of equal value with the lymph previously in use, as incomplete, until it has been tested by small-pox inoculation. In consequence of the active inflammatory action which some children have had from three and four insertions of lymph, I

now, for the most part, confine myself to two; and whenever the infection has taken in only one place, there the least local inconvenience has followed. My practice is, to insert the lymph by means of scratches made within a small space. Those vaccinations which have been least satisfactory were such as have been performed upon sickly children, or those that had eruptions.

The re-vaccinations I have practised tend to shew the energy of the new virus. The following are the results in twenty cases:—In four no effect was produced beyond a little redness, or a small pimple, lasting two or three days. In eight persons, whose ages varied from three to sixteen years, there occurred irregular vesicles, with more or less inflammation beginning on the third or fourth day, and continuing for eight or ten days. In four others, there was rather severe inflammation, producing much uneasiness in the part, and pain in the axillary glands; (in one of them two sloughs formed where the virus had been inserted; the lady who was the subject of this vaccination was confined to the house for some days, and the ulcers had not healed at the end of five weeks.) In two of the cases, ladies who had been vaccinated twenty and thirty years ago, flat and tolerably circular vesicles were formed, with a moderate areola, but the areola came on early, and continued for many days. These two cases, however, exhibited the nearest approach of any to a regular vaccine vesicle, but with neither should I have been sufficiently satisfied to have taken lymph for use, had they existed in persons not previously vaccinated. In the two remaining cases, there were small vesicles, and slight areolæ, for four or five days. In none, however, of these twenty instances did the vaccination run the same course that it has observed in children who had not previously been subjected to cow-pox infection. The cicatrices of the original vaccination in these individuals varied: some were well marked, others very faint, but there seemed no relation between the progress of the lymph and the extent of the original scar.

The new virus is now extensively employed in this city. Messrs. Wilson, Carpenter, Goodeve, Swayne, and several other surgeons of Bristol, are vaccinating with it, and are fully satisfied, as far as appearances go, of its superiority to the matter commonly in use. Dr. Gregory, of the Small-Pox Hospital, in a letter (the words of which I am sure he will allow me to quote), after detailing the failure of a former trial, says, "The Bristol lymph is of very excellent quality. Had I had any doubt of the good qualities of the lymph I have now in use, I would forthwith have adopted it (the Bristol lymph), and I am sure I could fully have relied on it." Dr. Gregory was unable to continue the stock from accidental circumstances; but had he been able to do so, he must soon have relinquished it, from its not being in his power to keep up two different kinds of lymph during the winter.

It is too soon, probably, for me to become acquainted with the result of its use in other quarters; but as I have sent a supply to another medical gentleman in London, as well as to practitioners in Dublin, York, Bangor, Retford, Oxford, Bath, Falmouth Harbour, Gloucester, Swansea, Malvern, and many other places, and as the burthen of almost every letter I have received (with the exception of Dr. Gregory's) is, dissatisfaction with the present stock of lymph, and unavailing efforts to procure a fresh supply from its original source, I have no doubt of its undergoing a sufficient trial.

One gentleman informs me that he has repeatedly inoculated cows with vaccine virus from the human subject without success. A more fortunate result attended a similar experiment in this neighbourhood. A friend having given me permission to vaccinate one of his cows, the experiment was conducted, during my unavoidable absence, by Mr. Wilson. Vesicles were produced on the cow's teat, running their course in about fourteen days. Children were inoculated with the lymph they furnished, and regular vesicles were reproduced upon their arms; but the lymph, after having thus passed through the cow, produced vesicles in no obvious character differing from those that it gave rise to before it was so treated; and after two or three weeks the stock was accidentally dropped.

The inquiries and correspondence I have been engaged in for the last two months have led me to the adoption of the following conclusions, though, I hope, with no undue confidence in their soundness:—

That the vaccine disease in the cow is not of very common occurrence, and

that it is more prevalent in the south-west counties of England than in others; and that matter taken from the cow, and inserted into the human subject, in the ordinary method with a lancet, seldom reproduces the disease; and that it is the greater exposure of the milker's hands to the morbid poison, sometimes probably with cutaneous abrasions, that renders them more liable to receive the infection than those who are comparatively slightly inoculated with it.

I still hope, with the aid of those friends who are also using the new lymph, to be able to furnish with it any medical gentleman connected with a public institution for gratuitous vaccination, who is anxious to give it a trial; but I would particularly urge, in order to secure a satisfactory beginning, that a healthy child be selected for vaccination, and one that is free from every kind of eruption.—I am, sir,

Your obedient servant,

J. B. Estlin.

Bristol, October 10th, 1838.

P.S.—Oct. 11.—After forwarding my letter of yesterday's date, I received from Mr. J. Soden, of Bath, the following report addressed to him by Mr. Gore, surgeon, of that city:—"I find the whole number vaccinated by myself or by deputy since Sept. 15th, from Mr. Estlin's stock of matter, to be 14." "It appears to be of a very satisfactory kind; as regular in its progress as that we have been in the habit of using, but more severe as regards the extent and degree of the surrounding areola. I have watched it in three successive removes from the stock received from Mr. Estlin, and have not observed any modification or diminutioon of its intensity." "I am still keeping it up."

[The above interesting communication came to hand too late for it to be inserted in our last number, as the author intended.—Ed. Gaz.]

ON THE SECALE CORNUTUM.

To the Editor of the Medical Gazette.

Sir,

I shall feel obliged by your permitting me to make a few remarks in reply to the observations of Dr. Cory, which appeared in the Gazette of Sept. 1, on a short paper of mine, intended to illustrate the properties of secale cornutum. I have been absent from home from that period until lately, which I trust will sufficiently acquit me of any want of courtesy to your respectable correspondent. I would also observe, that I feel much honoured by the complimentary tone in which the Doctor has remarked on my paper; and I assure you, sir, it is no small gratification to me to find that there is so great a correspondence of opinion on the subject between myself and so able a practitioner.

I endeavoured to explain in my first paper the reasons which induced me to communicate them to the profession. I had observed repeatedly, that errors were being committed by men of considerable reputation in the administration of this drug; whilst the junior members of the profession seemed quite undecided as to its real merits, and the proper indications for its exhibition. The general practitioner, engaged almost constantly, can spare but little time for reading, and I conceived that a condensed statement of its principal characters would be calculated to remedy some of these defects. The papers have been drawn up perhaps without sufficient attention to style and arrangement, &c., but the facts have been selected from a very considerable number, the results of years of careful and assiduous observation. A sense of duty has been my sole motive for bringing them before the profession, in the hope that they might be useful.

Having premised thus much, I shall proceed to notice the objections of your correspondent; and it is not without regret that I find him endeavouring, almost *in limine*, to give a meaning to my words which I think they do not convey. The Doctor asks "for the high authority which sanctions the exhibition of secale in cases of threatened abortion about the fourth month, and with a rigid and contracted os uteri." A reference to my paper, sir, will shew that the rigidity of the os uteri is not mentioned as existing previously, but subsequently to the administration of the ergot; in fact, that it is stated as one of the effects of the administration of that drug at an improper period. My words in describing the state of the os uteri are, "the os uteri was found dilated so as to admit

the point of the finger." Surely there is nothing in this about a rigid and contracted os uteri. This is scarcely fair on the part of your correspondent. The high authority to which I adverted was the learned author of the Dictionary of Practical Medicine; he says, "When the embryo only is expelled, the appendages being still retained, or when the hæmorrhage is great, the entire ovum still remaining in the uterus, the ergot of rye will prove of inestimable service." —(See Copland's Dictionary, art. *Abortion*, 37.)

The doctor seems also to think in this instance "abortion might have been prevented, at any rate that it ought to have been attempted" I am sorry to add that the experience of your able correspondent does not at all accord with mine on this point. I have invariably found, in cases of threatened abortion, that when the hæmorrhage has increased, accompanied with pains, uterine contractions, and dilatation of the os uteri, abortion has taken place, and that any attempt to prevent it has proved unavailing. And I think I do not stand alone here. The author of the admirable work above mentioned says, "The foregoing plan will often succeed in preserving the infant, unless the discharge continues, or becomes more copious, the uterine pains, with the other symptoms of commencing abortion, still persist, or increase, and the woman be far advanced in pregnancy, when little advantage will be obtained, particularly *if the orifice of the womb dilate:* when this is the case, attempts at preservation will entirely fail." Professor Burns, speaking on this point (see his Principles of Midwifery, art. Abortion), says, I know that we have been told of instances where contraction, after beginning, stopped for several weeks. The os uteri may be prematurely developed—it may be open for some weeks without pain, but no man will say that in this case labour or uterine contraction has begun." A little farther he adds—"It (uterine action) may, like other muscular actions, be suspended by anodynes, or artificial treatment, but it never has, and never can, be stopped, otherwise than by the expulsion of the ovum, when a new train of actions commences. Whenever, then, at any period of pregnancy, we have paroxysms of pain in the back, and region of the uterus, more especially if these be attended with a feeling of weight in that region, tenesmus, micturition, descent of the uterus in the pelvis, and opening of the os uteri, we may be sure that expulsion, though retarded, will soon take place." —P. 259, edit. 5th. The opinions of these able men sufficiently shew that in the above case any further attempts at prevention must have ended in disappointment. To the objections of Dr. Cory to what he calls a fanciful hypothesis, I can only reply by briefly stating the steps by which I arrived at that opinion. I would just remark, that it has been thrown out merely as a suggestion, not as a theory. I am strongly attached to the great principles of the illustrious Bacon, and should feel that I was treading on dangerous ground if I followed any other course in the pursuit of sound knowledge. About seven years ago I was attending a case in which the ergot had been administered during the early stages of labour, and I was surprised to find the abdominal muscles were contracting powerfully, while the os uteri and all the parts of the cervix which I could reach seemed unaffected. Repeated examinations were made, and after about twenty minutes the uterus began to take on an irregular and powerful action. This case first induced me to watch the matter, and in a very large number of cases I have observed the same order of events: first, contraction of the abdominal muscles; secondly, uterine effort. These effects are most obvious if the secale be given at an early stage, when I think any careful accurate observer will be satisfied of the precedence of action in the abdominal muscles, and the succession of uterine action. When the expulsive efforts have arisen in the course of labour—that is, when the os uteri is dilated—this order of things is not so appreciable. As far as I am aware, sir, there is nothing in this contrary to the Baconian philosophy.

The next point animadverted upon by your able and intelligent correspondent is the error which I have endeavoured to point out of administering the ergot at too early a period; and here I regret to find that the Doctor has again fallen into the error of supposing that I have described the os uteri as in a rigid state; whereas I have endeavoured to point it out, as a consequence of its improper exhibition. That this particular

error is not a solitary instance, occurring in my own sphere of observation, Dr. C. will find abundant proofs in the communication of Mr. J. B. Clutterbuck (see GAZETTE of Sept. 8), who says "he has given it in his last thirty cases, where the orifice of the uterus had not been dilated to more than the circumference of a shilling." Besides, I can assure Dr. Cory the gentleman to whom I have referred in my paper is an intelligent practitioner, and esteemed such in his own neighbourhood. I hope I have satisfactorily replied to the objections of your correspondent. I beg to apologize for having trespassed so much on the columns of your esteemed journal. I am, sir,

Your obedient servant,

JOHN ARMSTRONG.

Gravesend, Sept. 28, 1838.

P.S.—Your correspondent, Mr. Clutterbuck, errs in stating that Dr. Cory has recommended coffee as the best vehicle. Dr. C. has recommended tea. If Mr. Clutterbuck will try the coffee as recommended by me, but not too early in the labour, he will find it by far the best vehicle.

REMARKABLE CASE

OF

ECCENTRIC ATROPHY OF THE BONES.

BY JOHN THURNAM,
Resident-Surgeon to the Retreat, York.

Chronic Rheumatism (?) followed by Anchylosis of all the principal joints —Death in three years from Pleurisy—Acute and Chronic Empyema—Eccentric Atrophy of the Skeleton generally to a remarkable extent.

LOUISA TATUM, aged 19, unmarried, the daughter of a country labourer, was admitted into the Westminster Hospital, Sept. 5th, 1837, under the care of Dr. Roe.

She was completely crippled and bedridden, from rigidity of all the principal joints; lying constantly in one position on the back, with the knees separated as far as possible from each other; the thighs flexed slightly on the abdomen; the legs almost forming right angles with the thighs, and the feet everted.

The upper extremities were permanently extended, from the anchylosed condition of the elbows and shoulders, but she retained the use of many of her fingers, and fed herself with the assistance of a fork mounted on a handle of about 2½ feet in length. The joints generally, but especially the knees, were pale and glabrous, and appeared enlarged; but this was probably owing, at least in part, to the wasted condition of the muscles and other soft parts. Great pain was excited by pressure, or attempts at extension of the joints, but at other times she did not suffer. There was a chronic eczematous eruption over many parts of the body, especially about the knees and feet, which first shewed itself about six months since, soon after the first appearance of the catamenia, at which time an improvement in the general health was noticed.

She stated that her illness commenced about three years since, after getting wet in the feet, in the form of a rheumatic affection of the joints; there being pain and swelling of the left foot and both the knees, for which she had little or no medical treatment instituted by the parochial surgeon to whom she applied. She was confined to the house for two months, after which she got out again for twelve months, "hobbling along with a stick, in great misery." The disease, however, increased, and gradually extended all over the body, in the shape of stiffness of the joints, so that about two years ago she was obliged altogether to take to her bed. From the indigent condition of her parents, she had been living in a state of comparative distress, and had for some time been sleeping in a room with a damp stone floor.

The remedial measures employed were of course almost entirely palliative, and do not require to be detailed, as the condition of the joints remained unaffected. She had a slight cough and rather impaired breathing when she came in, and the general idea was that there were tubercles in the lungs, but her circumstances precluded this being satisfactorily ascertained by a physical examination. After she had been in the hospital about two months and a half, her health began more evidently to decline, and the pulmonary symptoms to be more urgent. The cough and expectoration increased, and were accompanied by hectic paroxysms, and profuse unpleasant and acid perspirations

About the third week in December she further complained of palpitation and pain in the left side of the chest about the region of the heart, the pain being increased by pressure. Upon uncovering the chest the increased action of the heart was visible to the eye, and upon applying the stethoscope the impulse was found to be increased; the sounds, especially the second, louder than usual, but scarcely heard beyond the præcordial region. The pulse, compared with the heart's impulse, was feeble. The upper and anterior regions only of the chest could be explored with the stethoscope; and in these situations the respiratory murmur was defective and bronchial, and obscured by sibilant and sonorous wheezes; there was also bronchophony (?). From this examination I was confirmed in the idea that there were tubercles in the lungs in the stage of softening, and that there probably was also subacute pericarditis; but the diagnosis was of course only problematical. She gradually sank, and died December 31st, 1837.

Dissection, 36 hours after death.—The body generally was much emaciated, but this appeared to be dependent upon atrophy of the muscular structures, as there was an abundance of subcutaneous fat. The brain was healthy.

Thorax.—The right lung was compressed by an empyema evidently of old standing, and was not of more than a fifth of its healthy bulk; its tissue was very dense, of a grey colour, and contained a few crude tubercles. The costal pleura, with the false membranes lining it, had attained to a great thickness, and was of a semi-cartilaginous texture, and studded with tubercular granulations. The left pleura was also the seat of effusion to a less extent, from a recent hæmorrhagic pleuritis. The left lung contained no tubercles. The pericardium contained about six ounces of serum, but there were no traces of pericarditis, and the heart was healthy.

Abdomen.—The abdominal and pelvic viscera were all healthy; and the cavity of the pelvis had its normal dimensions.

Osseous system.—Several of the principal joints on both sides of the body were examined, and were uniformly found to be the seat of fibro-cartilaginous anchylosis, passing into the osseous form. The patellæ were united to the femora by a complete bony medium. The tendons and ligaments around the joints appeared quite healthy. The remains of the synovial membrane of the knee-joints were thought to be rather more vascular than usual. The calvaria was the only portion of the osseous system examined that retained its healthy characters. Nearly all the bones of one upper and of both lower extremities, and the bodies of the vertebræ, were examined, and were found to be the seat of extraordinary eccentric atrophy. The external dimensions of the bones appeared quite normal, but their walls were reduced to an amazing degree of tenuity; those of the tibiæ and femora in no places appearing to exceed half a line in thickness; in many places, particularly about the heads of the bones, being scarcely so thick as writing paper, and here and there being altogether absorbed, producing a perforated appearance. The cavities of the bones were filled with semifluid marrow, suspended in a delicate but reddish medullary membrane. The cancellated structure was very delicate in the spongy bones, and in the extremities of the long bones: there were scarcely any remains of it in the shafts of the latter, so that after maceration the tibia had considerable resemblance to the bone of some large bird, only that its internal cavity was larger, and its walls thinner. The left tibia, after maceration and drying, only weighed one ounce and three-eighths, troy. The periosteum was detached from the bones more readily than usual. The chemical constitution of the bones has not been examined, but it would appear to have been healthy, as, *taking into consideration their delicate texture*, the bones did not present any abnormal, degree of brittleness on the one hand or of softness on the other. A specimen of the bones has been deposited in the Museum of the Royal College of Surgeons, London.

Observations.—The last remark in the account of the preceding case leads me to observe, that since the publication of the interesting researches of M. Proesch, in Germany, and more particularly of those of Mr. B. Curling in this country, the terms *fragilitas ossium* and *mollities ossium*, with the various synonyms of the latter, osteo-malacia, malacosteori, osteo-sarcosis, &c. can no longer be regarded as representing two distinct diseases, nor as constituting ap-

propriate nosographic epithets. The researches, in fact, of these authors would lead us to the conclusion that softening and fragility are both nothing more than symptoms which may occur in the course of several distinct diseases of the osseous system, and that they are each of them more particularly observed in different stages of the remarkable lesion which characterizes the disease usually called mollities ossium, and to which Mr. B. Curling has very appropriately applied the name of eccentric atrophy of bones. This has been apparently placed in a very correct point of view by M. Proesch*, who observes, that "although the bones are much more easily broken than healthy ones, this fragility is attributable rather to the extreme attenuation of their compact shells or outer laminæ, than to any excess in the proportion of their inorganic to their organic component parts, or than to any softening (as the term osteomalacia implies) of the general osseous texture; 'ils se rompent plutôt qu'ils ne se cassent.'"

The general history of the case of Tatum would seem to shew that, in the first instance, it was one of rheumatism, which, its treatment having been neglected, and the disease having been allowed to run on into a chronic and intractable form, had terminated in anchylosis. The complete state of inaction into which the osseous system, in common with the body generally, was, in consequence of the rigidity of the joints, necessarily placed, would of course have favoured any tendency to the production of atrophy of the bones that might have previously existed; or not improbably would, even of itself, have been sufficient to lead to its development.

I am aware that as in almost, if not in quite, all the cases of this lesion that have been recorded, the disease has been ushered in by pains in the limbs, it may perhaps be questioned how far those which were experienced in the commencement of the case of Tatum should be regarded as of a rheumatic character. I think, however, that the character, causes, and course of the affection, in the first instance, are favourable to the conclusion of this question in the affirmative. The case is, at all events, peculiarly interesting, from its presenting us with a generally anchylosed condition of the joints; being apparently, with one exception*, the only one on record, in which such a complication existed.

The view which I have taken of the mode of development of the disease in this instance, would appear to be supported by a well detailed case, reported by J. C. Planck†, which is stated to have had its origin in an attack of "acute rheumatic fever, which had passed into chronic rheumatism." In this case, however, although the patient survived ten years, no anchylosis had taken place.

P.S.—The foregoing case I forwarded to, and placed at the disposal of my highly respected friend, Mr. T. B. Curling, whose investigations on this disease have contributed so much to its elucidation. Finding, however, that he was not likely to make any further remarks on this subject at present, I am unwilling longer to defer the publication of a case which I incline to think one of much interest.

With Mr. Curling's permission, I here add the following note, which I received from him when he returned me the MS. In this it will be seen that he differs from me as to the *probable* cause and mode of origin of the lesion, and inclines, I believe, to the idea of its being a lesion dependent upon a constitutional disease, *sui generis*, rather than one which may result from different pathological conditions of the system—a rheumatic one among the number. The latter view is the one which I am inclined to adopt, whilst fully admitting that this is a question which, at present, we are unable satisfactorily to determine.

I may observe, that Mr. Curling has slightly misconstrued the degree in which I have represented "the state of inaction" as a cause of the lesion, when he alludes to my considering it as sufficient to account for this disease of the bones." It will be seen that, *in this case*, I do not attribute to the circum-

* Commentatio de Osteo-malacia. Heidelberg, 1835. See also Med.-Chir. Rev. vol. xxv. p. 496; 1836.

* The 16th case in Mr. B. Curling's paper, Med.-Chir. Trans., vol. 20, p. 360.—M. Saillant's case. Hist. de la Soc. Roy. de Méd. In this case only a few of the joints were found anchylosed.

† De Osteosarcosi Commentatio. Tubing. 1782.

stance alluded to more than an auxiliary causative influence.

Retreat, York, October 4, 1838.

The following is the letter from Mr. Curling:—

My Dear Sir,—I return, with many thanks, your interesting case of Eccentric Atrophy of Bone. I cannot quite agree with you in opinion that the state of inaction was sufficient to account for this disease of the bones, as in all cases of atrophy from diminished activity I have always found the external dimensions smaller than in the healthy state, and the entire bones of diminished size, which does not appear to be the case in this instance. There is no example, I believe, on record, of the disease occurring at so early an age as in the case of Tatum. It has been calculated that rheumatism is more prevalent among men than women, whereas our present experience of eccentric atrophy of bones makes by far the larger proportion of cases in those of females. How does this affect your view of its rheumatic origin? There are so few well-described cases of the disease on record, that I hope to see yours in print.

Very truly yours,

T. B. Curling.

1, Mount Place, London Hospital,
July 13, 1838.

DILATATION OF URETHRA—SIMPLE MODE OF EFFECTING.

To the Editor of the Medical Gazette.

Sir,

The brevity of this communication may perhaps induce you to give it a place, if you think the mode of overcoming a difficulty which it describes, of sufficient importance.

Being called to a little boy, about seven years of age, labouring under suppression of urine, I found him in a state of agony and spasm really alarming.

On examination I perceived in the urethra, close to the pubes, a stone about the size of a small French bean. The efforts to force it onwards were most violent, and likely to lead to rupture of the urethra, if not soon relieved.

I thought of letting out the stone by an incision, but determined to try first what could be done by dilatation.

It was clear that a bougie of sufficient size could not penetrate near enough to the stone to give relief.

I therefore inserted the point of a syringe of such a size as could be commanded with one hand, and forced warm water into the anterior portion of the urethra with a steady pressure, and had the satisfaction of producing, in about ten or fifteen minutes, sufficient dilatation to allow the passage of the stone.

Your obedient servant,

A. L. Wigan.

Montpellier Terrace, Brighton,
4th Oct. 1838.

GANGRENA ORIS.

To the Editor of the Medical Gazette.

Sir,

If the following hastily-sketched particulars of a case of gangrena oris, (rendered curious by the rapidity of its progress, and also by the fact of the sister of the patient having been similarly attacked after a case of fever, and as hastily carried off,) should appear to you of sufficient interest to merit a place in your columns, its insertion will oblige

Yours, &c.

W. H. B.,
Surgeon.

Henry Markham, æt. 3½ years, a fleshy, healthy child, of poor but decent parents, was brought to me about three weeks since, labouring under an attack of typhus fever. The symptoms, which from the first were mild, at the end of ten days had totally disappeared, and no further attendance being considered necessary, I neither saw nor heard any thing more of the child till the evening of Wednesday last, when the mother, somewhat alarmed, begged that I would call and see the child as soon as possible, as she feared that a disease similar to what deprived her of one of her other children not many months since had attacked him. In compliance with her wishes, I attended in a little time. The face had now become the diseased part, and was so much swelled that the patient could scarcely see out of his left eye. On examining the inside of the mouth, my surprise was excited at finding the gum bordering the molar teeth in a state of gangrene. The mother informed me that the child had complained of no uneasiness in the face; that that morning,

on waking, he had taken a tooth out of his mouth, which he found lying loosely therein; and that the first symptom which attracted her attention was a swelling, about the size of a pigeon's egg, on the exterior of the cheek.

The usual remedies, viz. acid gargles, with myrrh, and the internal exhibition of mineral acids with bark, were my prescriptions, and persevered in for a short time, but without making the least impression upon the disease, which went on most rapidly, and in a few hours disfigured the face most frightfully. At my recommendation, on the day after I had seen it, the child was taken to the London Hospital, and there examined by Mr. Scott and Mr. Hamilton, who wished it to be left in the hospital, at the same time holding out no hope of recovery, which indeed the mother never anticipated: the gangrena oris which terminated the existence of her other child having been ushered in by a slight case of fever, and having extended by similar rapid strides, a similar doom she rightly conjectured would be ere long the fate of this. The gentlemen, however, prescribed; but before the child reached home a black spot about the size of a sixpence had made its appearance on the cheek externally, and the right side had now become nearly as much affected as the left. It was found impossible to get any thing into the stomach. A mortified spot shortly appeared on the exterior of the right cheek; the two spots rapidly increased; in a short time from the ear to the chin was a mass of gangrene; the eyes were now completely blocked up; and in a few hours were closed in death.

It is proper to mention that in the treatment of the fever salines and diaphoretics were the only medicines used, and that not a particle of mercury was administered in any form.

CASE OF FITS WITH VERY SLOW PULSE.

To the Editor of the Medical Gazette.

Sir,

I forward to you the report of a case which came under my care, with the view which I have taken of it. You will perceive it presented very singular symptoms; the pulse, for instance, being as low as 16 in the minute. It must be, I think, regarded as interesting, and if you think it worthy of insertion in your valuable and widely circulated journal, you will oblige

Your obedient servant,

John R. Gibson.

115, Holborn Hill.
Sept. 25, 1838.

Mr. W., æt. 70, although not appearing so old, whose habits have been always temperate and regular, has led an active life, and enjoyed a good state of health, with the exception of fits. The sudden and unexpected manner in which he has been attacked for the last eight years, and the severe injuries he has sometimes sustained, have rendered it necessary he should go but little from home; and whenever he has done so, for the last seven years, he has always ridden in some sort of carriage. About twenty years ago he had a slight fit, which did not return for a long period; but he has been subject to what he termed a swimming in the head, which would make its attack suddenly. His extremities of late have been always very cold. For the last eight years the return of the fits has been much more frequent; and although they would occur at periods devoid of any peculiarity, yet they have been observed to return more frequently on occasions of excitement. The attacks have been always uncertain, both as to number and frequency; there being sometimes one fit only, at others, two or three; but when one occurred singly it was always more severe than when two or three came together. The interval between the attacks has also been irregular; sometimes a month, at other times a longer or shorter period intervening; and, until the last attack, he had no true fit for a period of six months, so far as the knowledge of his friends extends; but before this period they had been much more frequent than usual. It is, however, right to observe, that he was so tenacious of secrecy regarding these fits, that if one part only of his family were aware of his having had an attack, he would request the other part might not be informed of it. It is, therefore, fair to infer that he might have had many slight attacks without the knowledge of any one.

On Sunday, July 29th, he had a slight attack, which he did not mention to any one until the Wednesday following, when he had a return. The fit, it ap-

pears, had not been severe; but he felt different to what he had ever previously felt, which gave him some alarm, and from this time he pertinaciously entertained the idea he should not recover. When I saw him (11 P.M. on the same day) his surface was bedewed with a cold and profuse perspiration; his bowels had not been relieved that day; he had taken salmon for dinner, and had vomited, with him a very uncommon occurrence; there was a sense of uneasiness about the stomach, principally nausea; there was no tenderness on pressure at any part of the abdomen, but there seemed a degree of fulness; his tongue was dry and rather red; his pulse was but 22 in the minute, full and firm; there was no pain or uneasiness about the head, and his mind was quite correct, although he appeared somewhat depressed. He had no fit while I was with him. Upon inquiring of him whether he felt any sensation when the fit came on, he said, "none but a whizzing, which seems to fly up to my head." I directed hot bottles to be applied to his feet, and the following medicine—

℞ Hyd. Chlorid. gr. iij.; Ext. Col. C. gr. vj.; Ext. Hyoscy. gr. iij. Misce fiant pilulæ iij. s. s.

℞ Sp. Ammon. Aromat. ʒj.; Tr. Card. C. ʒj.; Sodæ Sesquicarb. ʒj.; Mist. Camphoræ ʒvj. M. fiat Mist. Sumat ¼ partem st. et 2nda quâque horâ.

August 2d.—He had a very severe fit shortly after I left last night, and many during the night, with very little sleep; his bowels have been freely moved, and the evacuations are dark and offensive. Pulse 17 in the minute, but not of the steady firm character of last night, there being sometimes a firm, at others a faltering beat, and no constant interval between each; surface still in the same cold clammy state; tongue not altered. Upon listening to the heart I could not detect the proper sounds, but merely felt the impulse, which, in accordance with the character of the pulse, was sometimes decided and forcible, at others feeble.

To continue the mixture, but increase the dose of Sp. Am. Arom. To take Hyd. Chlorid. gr. ss.; Ext. Col. C. gr. ij.; Ex. Hyoscy. gr. j. in a pill, every four hours.

4 P.M.—Had many fits during the day, and was suffering from them while I was with him, which were as follows:—If slight only, the face became pallid, the respiration rather laboured and quicker than natural; no pulse, but directly the heart acted the pallor rapidly gave way to a blush, and all was as before. If severe, the pallor increased; the expression became ghastly; the eyes turned up; involuntary twitchings; the respiration quick and laboured, with the alæ of the nose violently drawn in at each inspiration, producing a peculiar noise; the surface cold; perfect loss of sensation, volition, &c., and sometimes an involuntary discharge of fæces and urine. The heart was not acting; and I observed, for more than half a minute, no stroke whatever of the heart could be detected. If a feeble action of the heart only took place, such as could scarcely be felt at the wrist, the symptoms would continue; but directly a decided contraction occurred the face would immediately be changed from pallor to redness; then a suspension to the breathing, in which the hand would be raised to the throat; an apparent state of strangulation existed for a moment; sensibility immediately returned: the pulse would then beat steadily for about five strokes, at the rate of 60 in a minute; and he would always, without exception, conceive he had been asleep. At this visit I again examined the heart, and thought I heard the proper sounds, although indistinctly. I then ordered a large mustard cataplasm, mixed with vinegar and mustard, to be placed over the region of the heart and epigastrium, and when it had remained on as long as it could be borne, a blister was to be applied upon the same part. My reason for ordering both these was, that when a blister had been previously applied, no vesication had been produced. I also bled him to about eight ounces. The fits continued during the bleeding. The blood did not flow freely, and it was of a very dark colour; and during the first stage of the fits it was difficult to get any blood.

Omit. Pilulæ.

9 P.M.—The fits have continued at intervals; the pulse about the same.

Cataplasmata sinapis pedibus; Emplast. Lyttæ nuchæ.

℞ Sp. Ammon. Aromat. 3ij.; Mist. Assafœtid. ʒvj. M. Fiat Mist. cujus sumat. ¼ partem 3tia quâque horâ.

Aug. 3rd, 10 A.M.—He had a strong desire, after our visit, for some beer, which was given him, after which he went to sleep; passed a pretty comfortable night, with the exception of the irritation which the blister at the nape of the neck produced, and had no fit till nine this morning, which has been repeated.

The surface is not so cold as it was yesterday, but the other symptoms are much the same.

4 P.M.—The fits have returned very frequently during the day; pulse 17, irregular and intermitting.

℞ Sp. Ammon. fœtid. 3iij.; Liq. Volat. C. C. 3ij.; Aquæ Pulegii 3vij. M. Sumat. coch. i. minim. ex aquâ 6ta. vel 4ta. quâque parte horæ.

9 P.M.—Continued much the same since my last visit. At this time Dr. Roots accompanied me, and made a very careful examination of the case, as he is always known to do, but could not detect the natural sounds of the heart. The pulse was 16 in the minute; but some of the beats were so indistinct that it was necessary to listen to the heart itself in order to satisfy him that the heart really contracted. The Doctor clearly saw the great interruption to the heart's action, but was unable to say upon what it depended, and ordered some caudle to be made of two glasses of sherry, one of brandy, and a pint of good barley water, agreeably flavoured, and of this a small glassful to be given occasionally, and the following medicine—

℞ Ol. Cajuputi, ℥v.; Mucilag. Acaciæ, 3j.; Sp. Æther. Sulph. c. ℥xxx; Tr. Capsici, ℥x.; Syrupi Aurant. 3j.; Mist. Camphoræ, 3iv.; Aq. puræ, 3vj. ft. haust. 2da quâque horâ sumendus.

4th, 9 A.M.—About an hour after our visit last night he had a very severe fit, which lasted nearly half an hour, and it was feared it would be his last. He had very little sleep during the night, and had a repetition of the fits. At 9 this morning rose up in bed without assistance, drank off a glass of caudle, conversed quite rationally with one of his daughters; immediately after a fit commenced, and in five minutes his existence was terminated.

Sectio cadaveris.—In cutting through the structures forming the scalp there was so much engorgement of the vessels that a large quantity of blood escaped. On removing the bone, the superficial vessels were filled with blood of a very dark colour; and at the base of the brain the vessels forming the circle of Willis were so well injected, that they could be viewed as readily as if filled with artificial injection. The brain itself, with the exception of congestion, was perfectly healthy; the lateral ventricles contained very little fluid. The plexus choroides was much congested; but this fact was sufficiently apparent, that the congestion of vessels in the interior of the brain bore no proportion to that on the superficies. None of the vessels appeared in any way diseased.

In cutting through the superficial structures upon the chest and abdomen, the same engorgement of vessels appeared as on the head.

The cartilages of the ribs were completely ossified. The pleura on the right side was quite healthy, but on the left side thin firm bands of adhesion, evidently of long standing, held together the pleura pulmonalis and costalis. There was no effusion into either cavity. The lungs were perhaps as perfect a specimen of healthy structure as could possibly be selected, and free of any congestion, On opening the pericardium, the serous membrane lining it, and covering the heart, was quite healthy, and with very slight effusion into its cavity. The dilated state of the aorta could not, however, fail to strike attention; and I then determined to trace the artery throughout its course, suspecting obstruction in the form of ossification or otherwise. The heart itself was rather large, its cavities natural, and all its valves sound, excepting towards the base of one of the mitral valves there was a small spot of ossific matter, which would, however, in nowise interfere with its function. The coronary arteries were traced and laid open throughout their principal branches. Some yellowish white spots were observed between the inner and middle coats; and in the left coronary artery there was a very small spot of ossific matter. In the interior of the aorta there were very many yellowish white spots, in some places forming patches. In one spot, about the size of a sixpenny piece, a softened and ulcerated surface existed; in another spot, about the same size, complete ossification; and as the aorta divides into the two iliacs, perfect

ossification was found, not, however, including the whole circumference of the arteries, but on their inner and posterior part, the outer sides not being ossified, but firmer than natural. The internal coat was destroyed on the surface of this ossification, so that it somewhat projected into the cavity of the artery; this condition presented itself alike in both the iliacs, and extended about an inch along them. The aorta was very little diseased at its upper part, but this increased as the vessel lengthened. The branches of the left internal iliac were completely ossified. The omentum was very largely loaded with fat. The intestines were perfectly healthy, but the terminal branches of the mesenteric arteries were most beautifully seen encircling them. The liver throughout the greater part of its substance, but more especially towards its posterior part, possessed that peculiar appearance termed nutmeg liver; and the openings of the hepatic veins were unusually large. The kidneys contained cysts whose cavities appeared quite distinct, having no communication with each other or the proper cavities of the kidney. Some were completely embedded in the structure of the kidney, while others encroached into the structure of the kidneys on one side, and on the other were covered only by its tunics. They were of different sizes, some containing about a drachm, others half an ounce; but one on the right side contained about four ounces of fluid. The fluid contained in these cysts was of a straw colour. There were about three or four in each kidney. The structure of the kidneys, independent of these cysts, appeared perfectly healthy. The other organs whose characters have not been specified, presented nothing unusual.

[To be continued.]

REPLY TO DRS. GRAVES' AND STOKES' REMARKS ON DR. HOPE, IN REFERENCE TO AUSCULTATION.

To the Editor of the Medical Gazette.

Sir,

In the number of the Dublin Journal of Medical Science for September 1838, I have just observed the following article, signed with the names of Drs. R. J. Graves and W. Stokes:—

"*Dr. Clutterbuck versus the Stethoscope. Dr. Hope on Auscultation in Valvular Disease.*—In the heading of this notice we have connected the names of the above gentlemen, because, although they are in no way related as authors or colleagues, they have (no doubt unwittingly) joined to injure the cause of auscultation and of science, in their late publications: the one, by attempting to detract from its value; the other, by ascribing to it powers which it does not possess." . . . . . .

"In the next number, Dr. Hope, of whom we wish to speak with the respect which his labours have earned for him, has authorized the publication of a series of diagnoses, made by his pupils after a ten minutes' lecture on the most difficult part of medicine, namely, the valvular diseases of the heart. The pupils were inexperienced, and as far as we can learn, availed themselves solely of physical diagnosis. Their conclusions, in thirteen cases out of fifteen, were 'correct,' although they had, amongst others, to deal with the rare diseases of the pulmonic orifice."

"That the pupils, after having been instructed in Dr. Hope's views of the causes and situations of valvular murmurs, should have come to conclusions such as *he* would have done, is not wonderful; but that these conclusions were correct, we have only Dr. Hope's word for. We shall not examine into the evidence of the conclusions, for we know it to be insufficient; but we object to the whole proceeding, as calculated to revive the often-repeated and refuted objection to the advocates of auscultation, that they neglect the history of the case and vital phenomena."

"The following considerations we wish to impress on the pupils of the Meath Hospital:—

"First, that the physical signs of valvular disease are not yet established.

"Second, that taken alone, they are in no case sufficient for diagnosis.

"Third, that even in organic diseases the nature and situation of murmurs may vary in the course of a few days.

"Fourth, that all varieties of valvular murmurs may occur without organic disease.

"Fifthly and lastly, that organic disease of the valves may exist to a very

great degree without any murmur whatsoever.

"Of this assertion we shall hereafter bring abundant proofs."

Though I can truly say that I entertain for the two writers of the above remarks no less respect than they obligingly express towards myself—a respect founded on their real professional merits, and not likely to be cancelled by mere differences of opinion between us—yet I doubt whether they are not themselves injuring the cause of auscultation, which they profess to defend, by such publications as the preceding. It might be surmised that they were actuated by a wish rather to depreciate the individual than to uphold the science, when, rejecting evidence, and suppressing his real opinions, to which it will presently appear that they are not, or at least ought not to be, strangers, they attack one who was amongst the very first that introduced auscultation into this country—who, though humbly, has at least zealously fought in its battles ever since, and who has possibly taught it for a much longer period, and to a much greater extent, than has probably been done by the gentlemen in question. Perhaps, too, there is a degree of assumption and arrogance in any two physicians electing themselves *ad cathedram*, and undertaking publicly to pass unqualified judgment on their professional brethren. Perhaps more modesty and courtesy would become high and single-minded votaries of science. Pretermitting these questions of opinion, I confine myself to showing that the gentlemen alluded to, have not, in the present instance, been guided by a sufficiently fine perception of even-handed justice.

They say, "that the pupils, after having been instructed in Dr. Hope's views of the causes and situations of valvular murmurs, should have come to such conclusions as *he* would have done, is not wonderful; but that these conclusions were correct, we have only Dr. Hope's word for. *We shall not examine into the evidence of the conclusions, for we know it to be insufficient.*" Now it is unjust to denounce an individual as in error, on the assumption that he must necessarily be so if he differ from Drs. Graves and Stokes—that he cannot by possibility know more than they, and that therefore examination of evidence is superfluous. More candour and more charity, and more anxiety for the welfare of auscultation, would at least have induced them to wait for the promised evidence. A portion of this I shall now offer. 1. *Presumptive.* When certain rules of diagnosis are found to be so universally applicable as to bring a number of students, without communication, to identical conclusions, even respecting the "rare diseases of the pulmonic orifice," the presumptions are, that they are founded in nature and truth. 2. *Positive.* Three out of nine patients (the total number assembled) have died, and the perfect accuracy of the diagnosis has been verified by dissection, of which I am prepared to give well-attested evidence, with drawings of two, if required. Nor shall I neglect a similar verification in the other cases, if the same calamity should befall the patients; and this will constitute the remainder of the evidence. I can now assure Drs. Graves and Stokes that I am too wary a friend of auscultation to hazard opinions which I am not prepared to substantiate; and though I do reject, and always have rejected, the idea of infallibility as connected with auscultation—there being a small proportion of cases in which, either from the novelty of some of the circumstances or the indistinctness of some of the signs, a degree of obscurity will necessarily exist—yet I can further assure those gentlemen (especially the one who promises the profession a second part of a work on the Chest), that unless they are prepared, like myself, to teach students how to detect, even by physical signs and the pulse alone, the vast majority of diseases of the valves, with their particular localities, and that in the space of a very few minutes—also, how to discriminate inorganic murmurs in almost every instance, and how to account for variations in the *nature and situation* of organic murmurs—they will publish in 1839 as obsolete a work as, in these respects, was published in 1835 by a writer of so much talent as M. Bouillaud—a name which I mention, because they probably lean on his authority in saying that "the physical signs of valvular disease are not yet fully established."

They "object to the whole proceeding, as calculated to revive the often-repeated and refuted objection to the advocates of auscultation, that they neglect the history of the case and vital phenomena." If there be any indivi-

dual to whom this reflection is less applicable than to another, I believe that I have some claims to that distinction. The following is the last, and therefore the most conspicuous, passage in the Introduction to my Treatise on the Diseases of the Heart, published eight years ago—a work with which Dr. Stokes at least was perhaps abundantly familiar, as he is the reputed author of the only unfavourable review of it that ever appeared:—

"With respect to the comparative value of the general and physical signs of disease of the heart, it may be said that Laennec rather undervalued the former and overrated the latter. This was owing principally to the general signs being less perfectly understood, when he studied, than they have subsequently become, in consequence of being investigated with the aid of auscultation. The ardour of his early disciples, who imagined that the physical rendered the general signs superfluous, brought auscultation into some disrepute by the inaccuracy of their diagnosis. But since the stethoscope has taken its proper place as an *auxiliary only*, and the diagnosis has been founded on the two classes of signs conjointly, auscultation has ranked as a discovery which will immortalize its author, and form an epoch in the history of medicine."

In my lectures I have habitually expressed the same opinions, but in stronger and more explicit terms; and so anxious have I been to do this, that, contrary to my usual habit, I happen to have written out the portion of a lecture which bears on this subject. Though not necessary to my present argument, I subjoin it, in the hope that it may have its uses:—

"There is one point on which I would wish to offer a few preliminary observations. I allude to the estimate which ought to be formed of the utility of auscultation as compared with ordinary symptoms. I am anxious to express distinctly, and once for all, what I feel on this subject.

"After having verified stethoscopic observations by dissection in many hundred instances; been in intimate relations with stethoscopists, good, bad, and indifferent, in this country and abroad during a period of nearly 20 years, I am satisfied that any one who depends on the stethoscope alone, to the neglect of general symptoms, will commit serious errors in diagnosis. There are certainly many cases in which an application of the stethoscope, *per se*, is conclusive; but there are a far greater number in which it it is not. And why? Because its evidence often looks in several directions, and a further clue is necessary to ascertain the *particular* direction in which it bears. The same, exactly, may be said of general symptoms. Now, each of these is the clue to the other, and the concurrent evidence of the two affords information which is perfectly unattainable by either individually—information which renders the diseases of the chest as easy—I am almost tempted to say easier—of diagnosis than any other leading class of obscure affections. It has been urged against auscultation, that, by diverting the attention, it deteriorated the knowledge of general symptoms. The effect is diametrically the opposite; and for an obvious reason—that general symptoms are studied with a new—an extra light. An auscultator, without the use of the stethoscope, ought to be more rapid and accurate in his diagnosis than one a stranger to the science. Finally, a sound knowledge of general symptoms constitutes the shortest avenue to the acquisition of a good practical acquaintance with auscultation. To one so qualified, the superaddition even of a few only of the more prominent and simple physical signs, will give a prodigious advantage."

Let us next examine for a moment the final "considerations which Drs. Graves and Stokes wish to impress on the pupils of the Meath Hospital." It may be premised that the good taste of their peroration is doubtful: it reminds us of the advertising sheet—and its self-complacency is not becoming. The Dublin schools are replete with teachers of talent, of industry, and of zeal: their intrinsic merits secure to them their full mead of admiration and respect from all candid minds on this side of the channel: but when the preconizations, direct or implied, of the two gentlemen in question, would import a belief on their part that there is no medical school in the world like that of Dublin, and no school in Dublin like that of the Meath Hospital in particular; and, most particularly of all, that there are no names in the universe like those of Drs. Graves and Stokes; we are re-

minded of the worthy country squire, who, on coming to London, thought that every body would look at him.

The "considerations," with the exception of the third, are either "not new or *(pace loquar)* not true." All that are not new may be found in my Treatise.

1. *That the physical signs of valvular disease are not yet fully established.* An identical statement appears at p. 336, first edition. But the signs are established to an incomparably greater degree than appears to be known to Drs. Graves and Stokes.

2. *That taken alone, they are in* NO *case sufficient for the diagnosis.* The above quotations from my works will show that there is no novelty in attaching great weight to the co-operation of general signs; but the proposition in italics *is* novel, and I take leave to affirm, in the most unqualified manner, that it is erroneous. There are some—there are many cases, in which it is possible, in silence, in darkness, without any other aid than the hand and ear, not only to pronounce positively on the existence of valvular disease, but to specify the particular valve affected. I pledge myself to afford any amount of evidence to this fact. I entertain no fear of the assertion being prejudicial to auscultation, and I am heedless of its being considered a boast, since the achievement would be a puny one to the youngest hospital pupil.

3. *That even in organic diseases the* NATURE *and* SITUATIONS *of murmurs may vary in the course of a few days.* This applies principally to acute pericarditis, where the organic causes of the murmurs are mutable—a subject in the investigation of which Dr. Stokes has had great merit. Where, however, the organic causes are fixed, the murmurs are only mutable from changes in the concomitant circumstances; and the mutability does not detract from the certainty of the physical diagnosis, but sometimes quite the reverse.

4. *That all varieties of valvular murmurs may occur* WITHOUT *organic disease.* This subject is considered at page 64 of my Treatise, where I pointed out certain errors of the illustrious Laennec, and explained the real causes of most of the inorganic murmurs. At present I know something more on the same subject. Here again, the sweeping assertion of the writers is fraught with error. "*All* varieties," say they! I shall hereafter and elsewhere show that the varieties of inorganic murmurs are very few, and in general easy of detection.

5. *That organic disease of the valves may exist to a very great degree without any murmur whatsoever. Of this assertion we shall hereafter bring abundant proofs.* I was the first, I believe, that ever announced this fact, "A contraction of the mitral or tricuspid valve to the size of only two, three, or four lines in diameter, I have frequently known to occasion little or no murmur." (*Treatise*, p. 57.) Unless, however, our critics are prepared to show that this will not occasion a difficulty of diagnosis in more than about one per cent., they have something more to learn on the subject.

I would now ask Drs. Graves and Stokes whether, if they are really and conscientiously anxious for the progress of science, as a means of benefiting mankind, they do well to assail individuals, who, however humble, are at least zealous, without carefully considering whether their attacks may not, as in the present instance, be gratuitous and precipitate. Surely such favours are showered down in sufficient abundance by the remnant who oppose auscultation*.

I would further ask Dr. Graves and Stokes whether they might not now safely leave auscultation to defend itself. The battle has been fought for twenty years—and won. Unlike homœopathy, unlike mesmerism, unlike every species of quackery, auscultation has withstood the most violent assaults that ever stormed any science, and has emerged strong and refreshed from the struggle. Henceforth, the attacks of its enemies and the indiscretions of its friends are equally impotent. Like waves dashing against a rock, they fall back exhausted in vapoury spray. The public is aware of the issue of the contest; the public has proclaimed its fiat; the public *will have* auscultation; the public *must* be obeyed. Auscultation is dominant in every great school and hospital in London—in every one in the English provinces and Scotland. Auscultators are in the first ranks of profes-

* Of this a ludicrous instance recently occurred to myself, where a totally erroneous report of a diagnosis in a country paper, though spontaneously retracted by the editor in his ensuing number, was copied into others, and circulated amongst non-auscultators, as a subject of triumph and congratulation.

sional success here, and in every great town throughout Britain. The science has spread beyond physicians: it is consistent with my personal knowledge that the most eminent pure surgeons of the metropolis are either competent auscultators, or preparing to become such. It is equally consistent with my personal knowledge, that the great mass of general practitioners are gladly seizing every opportunity of keeping pace with their fellows. As an evidence of their anxiety I may be permitted to state, that, even seven years ago, one hundred, including a few physicians, entered to a course of friendly lectures privately given by myself; and it would not be difficult to assemble an equal or larger number at the present moment, if I had leisure to give private instruction. In the intercourse of private practice they gladly avail themselves of any hints which are courteously and unassumingly offered. It is also consistent with my personal knowledge that many of the senior surgeons in the country are obtaining clever young students from the London hospitals to reside with them, and teach them auscultation.

Under these circumstances, is it dignified, I ask Drs. Graves and Stokes, to assume the offensive? Does it not even imply a doubt of victory? Especially, is it dignified to run a quixotic tilt against an old and respectable physician, to whom medical science is under important obligations, and who might now be safely left to the peaceable enjoyment of his own opinions? Is it worth their while to assail at all the *disjecta membra* of the routed squad? Would they not be better left to the good wishes of Drs. Graves and Stokes, and to the tender mercies of the young hospital students?—for the latter soon learn to look with suspicion on those who would persuade them that they have not the use of their physical senses and common understanding.

Perhaps these gentlemen will say that I have myself assumed the offensive in the proceeding which is visited with their reprobation. I beg to deny this. The diagnosis of valvular diseases with the precision of which I have shewn it to be capable, is a novelty—perhaps peculiar to myself—certainly unknown to the physicians of the Meath Hospital. What is new, if true and useful, ought to be taught; its truth was not credited; it was necessary to resort to a simple and unequivocal *experimentum crucis;* particular circumstances at St. George's Hospital rendered such an expedient more than usually necessary. Its success was complete, and will be believed, notwithstanding the incredulity of Drs Graves and Stokes. In all this, I have strictly adhered to my capacity as an hospital physician and teacher. If I have met these gentlemen in public, it is they, not I, who have stepped out of their way; and as I have neither leisure nor inclination for controversy, I should henceforth greatly prefer applauding the well-directed energies of Drs. Graves and Stokes, to entering another protest against a dictatorship from the Meath Hospital.—I am, sir,

Your most obedient servant,

J. Hope.

13, Lower Seymour Street,
Oct. 15, 1838.

MEDICAL GAZETTE.

Saturday, October 20, 1838.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

Cicero.

ON MEDICAL READING.

It is somewhat singular, that the learned bodies, who have taken upon themselves the care of medical education, and some of whom have stringently ordered the times, and all but the hours, at which lectures are to be delivered, and (they fondly hope) attended, should have left the pupils to occupy the rest of their time according to their own pleasure, without endeavouring to point out any works, by the perusal of which the study of the subjects which they are required to be acquainted with may be assisted. There are some, we know, who will at once exclaim against the idea of recommending the student to read at all, as if it were the greatest of absurdities; but we need only remark, that as all those are persons who have never been in the habit

of reading themselves, they can be no judges of the matter. Some of these worthies speak of reading as if it were synonymous with theory, and the very opposite and contrary to practice, and they talk with contempt of a reading student; they call him *Doctor* if he belong to the surgical class, and sagely laugh and prophesy that he will never learn his profession. They might as well call it disgraceful in a sailor to use a chart for steering along an unknown coast, or laugh at a traveller who consulted a map or road-book.

We cannot condescend to argue with such persons; but there are some, whose judgment on other subjects is both acute and just, who have thrown opprobrium, or at most bestowed but faint praise, on reading, and whose favour we should be glad to conciliate, for this, which we deem to be, when properly directed, one of the most important branches of medical education. We allude, of course, only to the judicious perusal of well-selected books; and holding the opinions which we do, and have so often expressed, on the necessity of a practical study of medicine and surgery, we need scarcely say that we regard the value of books to be, *cæteris paribus*, directly proportionate to the correct practical applications of which their contents admit. In reading such as these, the student, after allowing a fair time for the digestion of his dinner, and the best of his lectures, will employ the rest of each day in the most advantageous manner possible.

There have undoubtedly been many instances in which students, by reading *only*, have failed of learning their profession; but this was their fault, and not the fault of the books they read. There have been as many who have failed of learning their profession by attempting to do it unassisted by books. The error is equal in both extremes; the former are like those who would expect to become sailors by poring over charts and models of ships at their own firesides; and the latter are like those who would think of finding their way through an intricate country without either map or compass. The right way here as in most other cases, is along the middle; the surest mode of learning medicine is by a judicious and coincident use of personal observation in the wards of an hospital, and of the study of the best authors on each of the several subjects which successively present themselves, as the objects of chief interest.

The case which we at present have in view is that of the vast number of students who are now commencing the winter campaign in our metropolitan hospitals; and more particularly of that portion of them who are anxious to learn enough of their profession to practise safely, successfully, and with an easy conscience; more of it, therefore, than is merely necessary to enable them to squeeze through their examinations. It may be said, perhaps, that the lectures which such a student enters to should be sufficient to supersede the necessity of reading. Perhaps they should; but what is more to the purpose, they do not, and as yet they cannot, effect any thing of the kind. A course of lectures cannot, at the best, be more than a condensed systematic work on the science professed; and even then they are subject to all the errors and faults of such works. There is not, either in the English, or, as far as we know, in any other language, a single systematic work on either medicine or surgery, which can be conscientiously recommended as a constant guide for the pupil in studying the cases in the wards; neither do we yet know any course of lectures which are of themselves perfect for all times and occasions; nor is it probable that such a system, or such a course, will be writ-

ten for many years, perhaps centuries; for neither medicine nor surgery are as yet nearly enough advanced in accuracy for systems to be formed upon them. The most that either can at present do is to point out the general signs of diagnosis, the general modes of treatment, and the other general characters of the most frequent diseases and injuries; but for the more detailed descriptions of these, as well as for the histories of all the unusual, or (if we may use the expression) the exceptional forms of disease, the only useful information which the pupil can acquire, is to be found in the monographs with which our medical literature abounds. When it is remembered, too, that these exceptional cases may happen in the practice of any individual to be more numerous than those which are in accordance with the general rule, the necessity of becoming, as far as possible, acquainted with them, will be at once apparent.

But it may be urged, clinical instruction should supply all the wants of the student in cases of this kind. It certainly may do much, but it cannot do all; it cannot include all the cases in which all the pupils need assistance; nor are there many teachers who are capable of giving such valuable instruction on every subject as the books specially written upon each can. On the contrary, every one who has attended much to clinical instruction knows how generally the lecturers are in the habit of dealing in a few favourite articles. Besides, clinical lectures, when they are substituted for reading and observation, are open to this great objection, that they may engender and foster idleness in the students, by removing the necessity for the personal study of disease, either by the patient's bed or in the works of authors. So much and so evidently is this the case in France, where the clinical system is adopted in what is called the greatest perfection, that we have no hesitation in saying that in many, perhaps the majority of instances, it is actually mischievous. Who that has mixed with the Parisian students of the more industrious class, can have failed to observe the avidity with which they note down all the patient's answers to the physicians' or surgeons' questions, then rush to the *Salle de Clinique*, where they write all that their hands can manage of the lecture, and finish all their study of disease by conning over their notes in some reading-room every evening, and cramming up the dogmas of the lecturer without having made a single personal observation; often without having seen the patient, whose case, in fact, they have only heard. On this system, there is not one student in twenty of those who frequent the Parisian hospitals who gains any practical or personal knowledge of the patients, of whom he sees such crowds.

Now we feel assured, that while clinical lectures should never be neglected, yet by far the best plan for the student to follow is carefully to read the most esteemed monographs on each of the more important subjects that are presented to his notice. After studying and personally examining the cases in the wards, he should refer to his books, and compare the evidence which he has drawn from nature with what is stated in them; then again, referring to the cases with the additional information he has acquired, and guided to more accurate investigation by the hints he has derived from his reading, he will in a comparatively short period become thoroughly and soundly acquainted with many of the most important points in pathology and therapeutics.

The student, however, should be cautious of allowing himself to be too much occupied with rare cases: his regular mental diet should be composed of those of which in a hospital of average size he

will never fail to find an abundance. In after life he will reap both personal and pecuniary satisfaction in exact proportion to the closeness with which he studies cases of this kind. But in these, as well as in the others we have already alluded to, he will find by far the most satisfactory assistance in the treatises which are specially written on the diseases of individual systems or organs; and (which is of no little importance) he will find the diversity of style in different authors as interesting, as the dull monotony which is sure to reign in the huge system of a single writer is tedious.

We shall take an early opportunity of entering more into detail on the course of reading which we would recommend students of different classes to pursue, and shall point out the particular works best adapted for each. We may take the present occasion just to hint at the contempt of reading and all authority which is too frequently seen in the works of those who, having the absurd ideas we have mentioned during their pupillage, hold them with even greater tenacity, when they themselves become authors. There is much vanity in all this, and more self-delusion; they think themselves fully capable of making discoveries; and, being entirely ignorant of what is already known by others, they live in a constant happy hallucination in meditating on their own originality. We have taken some pains, on two or three occasions lately, to point out the folly of repeating discoveries; and the history of medicine is full of records of time lost in the search after what had been found and laid up in store long before. Much of this contempt of reading has probably arisen from the endeavour to imitate, even to his faults, the great model—John Hunter, forgetting how far his intellect was above the general average. He was, indeed, one of those few whose minds are of such strength, that they can be at all times trusted without a guide. Yet it may be doubted whether even he would not have done still more, had he been aware of what others had done before him; and had he started from the point at which they left off, instead of undertaking the whole subject *ab ovo*.

The neglect of reading is particularly inexcusable in the present day, when medical literature is so extensive; when the stores of facts are so large, and their value and credibility can be so easily tested. The man who now essays to become a discoverer without reading must be foolish in the extreme, if only for the unnecessary trouble which he gives himself, of going over ground already often traversed, instead of beginning at once where another had left off. But the fact is, the temptation to become, either by fair means or foul, a discoverer, is too great; and too many exclaiming by anticipation, "pereant illi, qui ante nos nostra dixerunt," shut their eyes to every thing which would seem to contradict the entire originality of the *discovery* which they have set themselves to make.

How often, too, would a fair consideration of the evidence already accumulated be sufficient to prevent the mistakes which some daily run into! See the history of mesmerism, which in this view at least is most instructive. The evidence collected years ago was sufficient to prove beyond a shade of doubt the fallacy of the system, to all who candidly and impartially weighed it; whilst those who refused to consult it, and trusted to their own imagined powers of observation and reasoning, in a few months built up anew the flimsy fabric, which, as was to be expected, speedily fell, and in doing so covered them with ridicule.

GUY'S PHYSICAL SOCIETY.

The first meeting of the Physical Society of Guy's Hospital (for the session 1838-9) took place on Saturday, the 6th instant. Dr. Bright in the chair. The minutes of the last meeting having been read and confirmed, an appropriate address was delivered by the chairman, for which we regret that we are unable to make room.

Dr. Guy read a paper

On the Application of the Numerical or Statistical Method to Medicine.

The author adverted to the peculiar difficulties which beset the study and practice of medicine, and proposed to illustrate the nature and source of those difficulties by comparing the means which the medical man employs for the investigation of truth, with those by the aid of which the more exact sciences have been advanced to their present state of perfection. The employment of abstract reasoning was the most simple and certain way of arriving at truth; to this we owed those powerful and perfect instruments of calculation which have been applied with such success to the materials furnished by observation and experiment. To this application we were indebted for the so-called mixed mathematical sciences. These sciences differed in their degree of certainty, some of them being scarcely less certain than the result of abstract reasoning itself, and others scarcely more perfect than the least advanced sciences of observation and experiment. Astronomy afforded an example of the highest point of perfection to which science has yet attained; the other exact sciences formed a descending scale of certainty, of which the degrees were marked by the extent to which they admitted of the application of numbers. Dr. Guy then alluded to the science of chemistry, which not many years ago was a mere art, but which the application of a numerical theory—the theory of definite proportions—had raised to the dignity of a science. So great was the certainty which this science had attained, that it was enabled to foretel the changes which would take place between the atoms of matter with the same confidence with which the astronomer predicts the occurrence of an eclipse, or the appearance of a comet. Dr. Guy argued, that if the touch of a numerical theory could thus convert an art into a science—if calculation had conferred such benefits on other branches of human knowledge—the medical man ought to strive to apply the same strict methods to his own conjectural art; and though he admitted the difficulties which the use of this method would have to encounter, he entertained no doubt of its applicability. Dr. Guy then stated the principles on which he conceived the value of the numerical or statistical method to hinge. They were: 1. That the necessary errors of observation and experiment might be either in excess or in defect, and that the one class of errors would neutralize the other, and leave the actual value of the object or objects observed; and 2. That the same principle would hold good with regard to the things observed, their extreme quantitative values would balance and compensate each other, and leave for a mean result the value of the greater number of the things observed. Having established the general value of the numerical method, and shewn the principles on which it depends, Dr. Guy passed on to the practical application of the method. As a general rule, its application to individual cases was limited and uncertain; but when the mean result of a number of observations was reapplied to as many cases as those from which it had been obtained, or at least to a great number of cases, there was a near approach to certainty. Life-insurances afforded a good example of this application of numbers. Where, again, the extreme numerical values of a number of objects were not very remote from the mean values, the employment of the mean led to useful results. But the extremes also admitted of valuable applications. Dr. Guy instanced the case of poisoning. If a large number of observations had shewn the shortest period within which, or the longest period beyond which, a poison acts, suspicious symptoms arising before the one, or after the other point of time, might be justly ascribed to causes other than the administration of poison. Sometimes, again, it was important to decide between two conditions, each of which occupied one extremity of an increasing numerical scale. Thus, in the case of the static lung test, the smallest weight of lungs which have not breathed, and the greatest weight of those that have respired, having been determined by observation, any number falling short of the one or exceeding the other would give the strongest reason for believing, in the one case, that a child had not breathed, and in the other, that it had. But the practical application of statistical results to individual cases was not their most important use. As instruments of discovery, and foundations for reason and experiment, statistics were invaluable. No reasoning could have any value which was not founded on correct data; numerical data were the most exact, and ought on that account to be employed wherever

they could be obtained. Nor was the science of medicine without abundant materials to which calculation could be applied. Communities as well as individuals, the human body both in health and in disease, the development of the entire frame as well as of its several parts, the functions which it performs, the diseases to which it is liable, the remedies by which disease may be removed and suffering alleviated,—of all these the numerical method was either an accurate measure or an invaluable test. Dr. Guy then shewed that the errors and defects with which this method stands charged, are the errors of observation and experiment, and cannot be considered as an objection to its employment. He illustrated this position by alluding to the error committed with regard to the Government annuities, as well as by a statistical error committed by Bryan Robinson, and shewed that these mistakes were in no degree characteristic of the science of statistics.

In conclusion, Dr. Guy reverted to the question which he had propounded at the beginning of his paper,—What were the causes of the uncertainty of medicine? There was no lack of observations and experiments; there was no want of strong motives to exertion on the part of the members of the profession; there was no want of zeal as to individual cases. Medicine was imperfect because it was too exclusively a practical art. Individual cases created, of necessity, too great an interest in the mind of the observer; for the alternatives of suffering or ease, of life or death, depended on the treatment adopted. This circumstance precluded experiment. If individual cases created a less degree of interest, more pains would be taken to advance medicine considered as a science. It was this practical character of medicine which made the medical man impatient of all those investigations which had no immediate practical bearing. But this practical character of his art created another evil. The ill success often attending the application of general principles to individual cases made the observer despair of the future progress of his science. This despondency was little in accordance with the character of philosophy, which was "to hope all things not impossible, and to believe all things not incredible." Dr. Guy concluded by stating, that such despondency would not be justified till medicine had attempted to employ the same clearness of definition, the same strict and rigorous methods of investigation, which had raised the more favoured branches of science to such high degrees of perfection. If these methods should be applied without success, it would be the first time in the history of science that persevering industry, unwearied research, correct and comprehensive reasoning, had been employed in vain.

UNIVERSITY COLLEGE MEDICAL SOCIETY.

The first meeting of this society for the present session took place on Friday evening: Mr. Taylor, president.

The president delivered the usual introductory address, in which he adverted to the advantages to be derived from a society constituted as this is. The pursuit of medical knowledge, embracing, as it does, so many important branches of science, affords an ample field on which individuals possessed of different mental qualifications can exercise to the greatest advantage those talents with which they may be endowed. It is this fact that renders those opportunities of such importance, in which the peculiar mental powers of each individual can be made available for increasing the knowledge of all, by that interchange of ideas which the public discussion of any question is sure to call forth. The acquirement of the habit of public speaking, by leading us to think for ourselves, and to embody our ideas in words, by which we obtain a clearer notion of them, was also adverted to. The thriving condition of the library and Osteological Museum, which are formed in connexion with the Society, the opportunities the Society afforded for remarks on the clinical practice at the Hospital, and many other points, were most ably considered. When the address was concluded, an announcement of the presents of books which had been made since the last meeting took place. Amongst the donors are the names of Velpeau, Dr. Grant, Professor Graham, Mr. Morton, &c. Votes of thanks were returned to the gentlemen who had thus enriched the library. About forty new members were next proposed. The President then proceeded to award the prize which had been offered to the author of the best essay read before the Society during the last session. The successful candidate was Mr. James Blake—this being the second time that this gentleman has had the honour of receiving so flattering a mark of distinction.

At the conclusion of the proceedings it was announced that Mr. Blake would read a paper before the Society at the next meeting.

GLASGOW EYE INFIRMARY.

Clinical Lectures by Dr. Mackenzie.

October 6, 1838.

Ophthalmia Tarsi.

Since 1st August we have admitted on the list thirteen cases of the disease styled *ophthalmia tarsi*—by far the most frequent affection to which the eyelids are liable. Its essential character is inflammation of the glands which surround the roots of the cilia, producing purulent discharge from these glands, ulceration round the bulbs, and destruction of the secreting organ of the cilia. The conjunctiva, the meibomian follicles, and the integuments, are more or less implicated in ophthalmia tarsi, and even the cartilage appears ultimately to become thickened.

I must here remark, however, that ophthalmia tarsi is a term under which are often confounded two diseases, which in their early stage are sufficiently distinct. The one (blepharitis glandulosa) is a catarrhal inflammation of the meibomian follicles and conjunctiva; the other (blepharitis scrofulosa) is an inflammation of the ciliary glands. These two affections are often conjoined. Indeed, the one leads invariably to the other, so that in chronic cases all the structures which exist at the edge of the eyelids are involved—the ciliary glands and the meibomian follicles, the skin and the conjunctiva, and even the tarsus.

I need not dwell on the symptoms in the advanced stage, as they are familiar to you. The complaint is often obstinate, especially in the chronic and complicated cases; partly, no doubt, from its nature, partly from the bad constitution of the patients, but chiefly from a careless employment of the remedies prescribed. The muriate of mercury collyrium*, and the red precipitate salve†, are the local means I generally order; and if employed with regularity, they are sufficient, in ordinary circumstances, to effect a cure. The lotion is warmed, and used thrice a day. The salve is rubbed into the roots of the eyelashes at bed-time, after a careful removal of the crusts formed by the morbid secretions. These means require to be continued generally for six months, and sometimes for twelve months, in order to prevent relapses, and complete the cure.

Numerous adjuvants are had recourse to, according to the various phases of the disease, such as cataplasms, nitras argenti, solid or in solution, leeches, counter-irritants, pugatives and tonics. There is a little boy attending, in whom the symptoms were very bad, till he had a pea-issue inserted in his arm, which has been followed by the best effects. To a considerable number of the patients at present attending with ophthalmia tarsi, I have prescribed a solution of fifteen grains of murias barytæ in half an ounce of diluted tincture of bark, of which from eight to twenty drops are given thrice a day, in a wine-glass of water. This remedy is much recommended in this disease by Dr. Zimmer, of Prague, and we have certainly witnessed good effects from it.

Syphilitic Ulceration of Eyelids and Inner Canthus.

When you see an adult affected with an inflammation of the edge of one eyelid only, which has continued for some weeks, or it may be months, and has not yielded to local applications, but has rather grown worse, you should suspect syphilis. I have more than once or twice seen syphilitic inflammation of the edge of an eyelid mistaken for simple ophthalmia tarsi—a mistake which may be followed by disastrous consequences. A similar caution applies to inflammation and ulceration at the inner canthus; for syphilitic ulceration in this situation is sometimes taken for simple dacryocystitis.

We have two patients at present under treatment, whose cases illustrate these remarks.

Case I.—*Syphilitic Ulcer at Inner Canthus—Penetration of Lacrymal Sac.*

A. B. (No. 8404,) an unmarried female, aged 46 years, admitted 10th April, 1838. There is a foul ulcer, with imflamed elevated edges, at right inner canthus. It began three weeks ago, being preceded by a bluish hard swelling, about the size of a split pea. Does not appear to have been troubled with watery eye, or any symptoms of dacryocystitis. General health good. Has had no sore throat or any eruption. Is nursing a healthy infant.

Curetur ulcus unguento simplice. Capiat pilulas Submuriatis Hydrargyri, gr. ij. et Opii gr. ss. duas omni nocte.

14th.—More painful; mouth affected; headache. V.S.; omitr. pil.

15th.—Headache relieved. Ulcerated surface presents rather a healthier appearance, but its edges are still raised, hard, and inflamed.

17th.—Ulcer granulating in the middle. Capt. pil. unam o. n.

* R. Muriatis Hydrargyri, gr. i.; Muriatis Ammoniæ, gr. vi.; Aquæ, oz. vi. M. Solve et cola per chartam.

† R. Hydrargyri Precipitati Rubri, gr. vi. Tere in mortario in pulverem subtilissimum. Adde Unguenti Simplicis, oz. ss. M. Ft. unguentum.

19th.—Capt. pil. m. et v.
23rd.—Capt. pil. tres indies.
27th.—Capt. pil. unam indies tantum.
7th May.—Ulcer gradually healing.
11th June.—Received a blow this morning on the site of ulcer, which has produced considerable swelling.

Adhibr. hirud. tres.

22nd.—Curetur ulcus Unguent. Hydrarg. Præcip. Rubr.
27th.—Ulcer rather increased in size, and more painful.

Rep. pilula m. et v.

17th July.—Omitr. Ung. Hydr. Præcip. Rubr. and utatur unguento citrino diluto.
2nd Oct.—Says that after the blow noticed in a previous report, and the application of three leeches to allay the swelling, the irritation of the leech-bites renewed the ulceration; but that the ulcer again contracted in the months of June and July, from the influence of the pills. The only remains of the old ulcer is a minute orifice opposite inner canthus. It appears to communicate with the lacrymal sac, tears being frequently discharged through it. About a fortnight ago a new ulcer formed on the side of the nose, below the site of the former ulcer. This new ulcer has partially healed, leaving a very irregular cicatrice, without medicine. Right eyelids red and swollen; general health good; sweats profusely in the night; has used no pills for about two months.

Repr. pilula m. et v.

This patient denied having had any primary symptoms. She presented no appearances of having had any sore throat or eruption. The character of the ulcer, and its rapid amelioration under mercury, were the chief grounds for believing it to be venereal.

When she was admitted, had I been asked whether I regarded the ulcer as a primary or a secondary one, I should have said primary; but the supervention of a second ulcer in a new situation must, of course, modify that opinion.

Case II.—*Syphilitic Ulcer of Upper Eyelids.*

J. S. (No. 8832), aged 20 years, admit- 28th September, 1838. Was born with hypospadias. Has a chancre on the glans, a second on the malformed prepuce, two syphilitic sores on the scrotum, and a suspicious-looking superficial ulcer on right leg. Dates these sores from the month of May. Ten weeks ago a small hard swelling formed on middle of right upper eyelid, which he supposed to be a stye. The whole of the eyelid is now much inflamed, and rather of a livid colour. It feels hard and tuberculated, and is a good deal swollen. Along its margin, to about two-thirds of its extent, it is in a state of ulceration, and presents a considerable notch just about the middle. Its conjunctival surface is much inflamed, the membrane being thickened, and discharging a considerable quantity of puriform mucus. The ulcer is affected with burning pain, which obliges him to hold a handkerchief to the eyelid to afford relief. Right cornea nebulous, which he attributes partly to ophthalmia in childhood. Pulse 108, small; occasional rigors; complains of weakness; has used no mercury.

Capt. Pilulas Submur. Hydrarg. gr. ii. et Opii gr. ss. duas o. n. et unam o. m.

29th.—Gtt. Sol. Nitr. Argent. gr. iv.

Collyr. Mur. Hydrarg.

30th.—Eye easier.
2nd Oct.—Eyelid less swollen. Mouth begins to be sore.

Cap. Pil. j. tantum indies.

3rd.—Sores on scrotum healing; swelling of eyelid considerably diminished, so that he is now able to uncover the cornea, which is also clearer.

Contr. Pil. j. indies.

4th.—Lid still improves; ulcer on its edge contracting; mouth pretty sore.
6th.—Omitr. pil.

The congenital malformation in this lad consists in a deficiency of the upper part of the prepuce, while the opening of the urethra is not through the glans penis, but close behind it. This variety of hypospadias does not materially interfere with the excretion of the urine, nor even with the fulfilment of the generative function.

The appearances of the eyelid were very characteristic. The general swelling of the whole eyelid, the hard nodulated surface of the swelling, the livid colour, the ulcer spreading along the edge, which at one point it had notched by a complete loss of substance extending even to the cartilage, and the severe pain felt in the part, were all well marked, so that before asking any questions about the patient's previous health, the syphilitic nature of the case was forced upon our consideration. The patient gives a very confused account of the rise and progress of his ailment; but there can be little doubt of the secondary nature of the ulcer of the eyelid.

That the eyelid is a part not unfrequently the seat of syphilitic inflammation, is a conclusion to which I have ar-

rived from witnessing at least ten cases of this sort.

In a case related (Edin. Med. and Surg. Journ. vol. xxxvii.) by Dr. Campbell, of Edinburgh, the upper and lower eyelids of right side were wholly destroyed by syphilitic ulceration. This case was regarded as of very considerable interest at the time of its publication, on account not only of the extent to which the destruction of parts had proceeded, but from the unexpected fact, that the patient experienced neither pain nor uneasiness from the exposed state to which the eyeball was reduced by the loss of its natural covering. A still more remarkable case, however, than Dr. Campbell's, has been published within these few weeks by Dr. Jackson (Lancet, 8th September, 1838), of an old woman living in one of the lanes close by, in whom all the four eyelids have been removed by syphilitic ulceration. Through the kindness of Dr. Jackson I had an opportunity of examining this patient on the 13th ult., and we have here a wax model of her face by Dr. Paterson. I shall embody Dr. Jackson's account of her, with such additional notes as I have taken of her case.

Case III.—*Loss of the four Eyelids from Syphilitic Ulceration.*

The patient is a widow of 60 years of age. The entire nose and nasal bones, a considerable portion of the ethmoid bone and of the superior maxillary bones, the inferior turbinated bones, the vomer, and the whole hard and soft palate, have been destroyed by ulceration and exfoliation, so that the nostrils and mouth are converted into one opening, without any sort of division even in front. The opening is bounded above by the ethmoid bone, and below by the tongue; and is capable of admitting the five fingers. The alveolar processes of the upper and lower jaws have been completely removed. Over the centre of the frontal bone there is a large depression, the consequence of repeated exfoliations, and the integuments there are still in a state of ulceration, leaving portions of dead bone exposed. The whole of the upper lip, and the greater part of the lower, have been destroyed by ulceration; but the integuments surrounding the cavern into which the nostrils and mouth are now converted, though puckered and drawn inwards, are perfectly cicatrized. Especially on the left side the finger is easily passed from the situation of the nostril into the antrum Highmorianum.

The eyelids on each side, as well as the eyebrows, have been completely removed by ulceration, and the skin has united to the conjunctiva covering the sclerotica. The integuments proceed, in fact, from the circumference of the orbits into the conjunctiva bulbi, without forming any fold. The conjunctiva of each cornea is semi-opaque, permitting the dark appearance of the iris to be seen, but not the pupil. The eyeballs present their usual size, form, and consistence, but are almost destitute of motion. When she makes an effort to move the eyes, a slight motion of the skin is observed. Her whole power of vision consists in a perception of light and shadow. She cannot distinguish whether one or two fingers be held before her eyes. The want of eyelids does not cause her much uneasiness when the eyes are shaded, but when she turns her face up to the window, or to a bright light, the eyes are pained. Touching the eyeballs does not seem to excite any pain; they never appear red or inflamed. She does not seem to sleep much, and never soundly. When she goes to sleep, she covers the eyes with a bit of cloth. When she sits up, she keeps her head depressed towards her breast, so as to exclude the light.

On each side there is a small fistulous opening, apparently communicating with the lacrymal gland, from which there is a constant exudation of limpid fluid. When she weeps, which she does frequently, there is a copious flow of tears from these openings down the cheeks, and she says that at the same time she has a kind of burning pain in the eyeballs. The surface of the eyeballs is always dry; never covered with mucosity.

No puncta lacrymalia can be discerned on either side; but below the inner canthus on right side, there are two ulcerated openings which appear to lead into the lacrymal passage. From the feeling of elasticity which pressure in the neighbourhood of the inner canthi, but particularly on right side, yields to the finger, it is probable that the ossa ungues are gone, though in consequence of the firmness of the cicatrice there, and the pain which pressure produces, it is difficult to ascertain this point with any thing like certainty. No other part of the orbit, however, appears to be destroyed.

She seems to enjoy a considerable degree of smell. She, at least, can detect a bad smell, and relishes the odour of snuff.

She speaks with great difficulty, but her daughter understands what she says. It is almost impossible for her to swallow fluids. When she swallows spoon meat she lies on her back, and throwing the morsel down, swallows it with difficulty, and an expression of pain. The tongue, from its constant exposure, is swollen and inflamed. Her hearing is much impaired.

Over the right scapula, there is a large

ulcer, through which several pieces of bone have passed. The whole body is much emaciated. The arms and hands are particularly attenuated, and their joints very flaccid.

The commencement of her complaint she dates fourteen years back. The bones of the head were affected, before any disease appeared in the face. The ulceration, after having destroyed the lower lip, attacked the upper eyelids, then the lower eyelids, whence it spread downwards, and removed the nose and upper lip. The eyelids of both sides were removed before the nose was involved. She blames her husband for improper conduct towards her. She never had any eruption. She had not taken mercury antecedently to the disease commencing in the face. After that, she was salivated by mercury, and took large quantities of sarsaparilla, without checking the progress of the disease. Large portions of bone came away at various intervals.

Dr. Jackson, in his published notice of this case, remarks, that it shows to what a dreadful extent secondary syphilis will proceed, in spite of mercury, sarsaparilla, &c. in a patient in whom the primary symptoms have not been treated with mercury. He thinks the extensive exfoliation of bone could not, in this instance, be attributed to mercury, but to the effects of syphilis.

This case, while it shows the danger of mistaking the nature, or trifling with the treatment of syphilitic ulceration of the eyelids, confirms the observation of Dr. Campbell, that a state of irritation, to the extent which might be anticipated, is by no means the result of the exposed state of the eyes, consequent to the loss of the eyelids. In carcinomatous affections, therefore, requiring the removal of the eyelids, we need not extirpate the eyeball, as has been proposed, in order to save the patient from any severe degree of suffering which has been thought likely to arise from the constant exposure of the eyeball. Were the eyelids removed by an operation, the skin, as in Dr. Campbell's and Dr. Jackson's cases, would unite to the conjunctiva bulbi, and the surface of the eyeball would become dry and insensible.

Mankind have been assured for nearly 300 years, that the venereal disease has been becoming milder and milder, and that they might indulge in the hope of its complete annihilation.

Namque iterum, cum fata dabunt, labentibus annis
Tempus erit, cum nocte atrâ sopita jacebit
Interitu data.

The aspect of this miserable creature, however, whose case I have been narrating to you, would be sufficient to make even a Fracastorius to shudder. Well might he fear, on looking at her, that the second part of his prediction was about to be fulfilled, and that syphilis had begun to revisit the earth with all the horrors of its first career.

Mox iterum post sæcula longa
Illa eadem exurgit, cœlumque, aurasque reviset,
Atque iterum ventura illam mirabitur ætas.

STATE OF MEDICINE IN GREECE.

The medical profession is in high esteem among the Greeks. Some few of its members have studied abroad, but these generally settle in the large commercial towns of foreign countries. Formerly they often attained high offices in the state; Capo d'Istria himself had taken the degree of doctor at Pavia.

Some Greek physicians have attended an Italian high school for two years or two and a half, and obtained a diploma *per fas et nefas;* but they are generally established in Turkish towns, where they can hope for better fees than in the exhausted Hellas. They have generally no correct knowledge of surgery or midwifery, and in the practice of physic stick to a few set forms, and enlarge their knowledge by seeing what does harm. The sons and relations of a physician, from their fourteenth to their sixteenth year, visit patients in his company, learn by heart a few Græco-Italian medical maxims, read a modern Greek version of some ancient writer on therapeutics, prepare the medicine at home themselves, and then soon attain the title of proficients, without being able to do any thing more than what with us is comprehended in minor surgery. The greater operations are performed by Rumeliots and Albanians. Midwives and old women who chiefly deal in secret remedies, forms of incantation, and drugs to provoke abortion, and who are sometimes called doctresses, together with Jews from Asiatic Turkey, who sell ethereal oils, &c. against all sorts of ailments, form the keystone of this splendid edifice. The venders of drugs possess about the same quantity of knowledge and conscience, for only Nauplia, Patras, Hydra, and Syros, possess good apothecaries' shops. The prices of medicine are quite enormous, such as one rouble and 90 copecks for two drachms of muriate of ammonia; 65 copecks for a grain of tartar emetic dissolved in six ounces of water; 2 roubles and 40 copecks for a drachm of cherry laurel water; 2 roubles and 10 copecks for an ounce of oil of almonds; and 5 roubles 70 copecks for eighteen grains of sulphate of quinine. They substitute at pleasure other medi-

cines for those prescribed. Thus, an apothecary sold extract of dulcamara for extract of liquorice*; and occasionally put Extr. Dulcam. ʒiss. as a *corrigens* into mixtures, without damage, as it was as worthless as the rest of his drugs. The barbers, too, often take upon themselves to prescribe and administer purgatives, and do much mischief, particularly with Le Roi's. The annoyances which well-educated foreign physicians and the few good Greek ones have to endure are very disheartening; superstition and the difference of religion act like powerful drag-chains on the progress of the true art of healing. On visiting his patient, the Greek physician, immediately after feeling his pulse, must know the name and the treatment of the disease; and as Frank travellers all pass for physicians, when hand and tongue are presented to them in the street, they are expected to answer καλὸ or κακὸ. The patients are so surrounded by their relations, that though they observe no particular delicacy, it is impossible to examine them accurately, especially sick girls. It is unnecessary to mention that when patients are very ill, the clergy are not absent. The physician must give the medicine himself, as nothing would be paid for writing the prescription, if the friends had to fetch the medicine. Long suckling and over feeding children, produce many diseases; so do the frequent greater and lesser fasts, the mean and dirty dwellings heated by chafing-dishes in winter, the bad beds, &c. The sick are almost always ill nursed, and very young children are particularly neglected; if they die before they are seven years old they are not lamented, because they have not yet began to live; while old men, above fifty years of age, have lived long enough. In diseases with delirium, or nervous symptoms, it is impossible to maintain cleanliness, or to do much with remedies, as the patient is deserted on account of the demon supposed to be present, and the friends overwhelm the physician with reproaches, in case of his succumbing in the contest with these spirits. The Greek physicians often make a bargain as to the remuneration they are to receive, and frequently obtain half in advance, not receiving the other half if the patient dies. The poorer class sometimes show their gratitude by sending fruit, eggs, &c., while the more opulent are very unthankful. Physicians who wish to cut a figure are obliged to demand high fees, and by all means appear in public with a number of attendants. The physician may adopt any system and any method of treatment, as he is not subject to any responsibility. Medicines here produce their effect more quickly and strikingly, and wounds heal more easily.

One of the commonest remedies, and first employed in almost every ailment, is bleeding; it is for the most part only from four to six ounces, as even the healthiest persons, from early childhood, are generally bled four times a year. So small a quantity is, of course, insufficient in really inflammatory diseases, and then the patients are exhausted by a repetition of these small bleedings. The primæ viæ are then cleaned out with purgatives; castor oil, Epsom salts, senna, manna, cream of tartar, rhubarb, jalap, and a plant of no great power, called ξενόχορτον, being indiscriminately employed. Leeches, which are scarce and dear, are not unfrequently put on, to the number of one or two, but without any particular intention of local bleeding. After the purging, which is often reinforced by a clyster of sea-water or common salt, the patient generally takes kermes mineral, in the dose of from gr. ss. to gr. j. a day, with nitre and sugar, or in a mixture with Hoffman's Liq. Anod. The treatment is concluded with a mixture of bitters and aromatics, such as commonly grow in the country—balm, mint, dandelion, orange leaves, marjoram, thyme, chamomile, &c.

In inflammations and continued pyrexia they allow venesection until the eighth day, but not beyond that period, even in the most pressing cases. Resolvents and diaphoretics are almost unknown, nor do they pay much attention to crises or critical evacuations.

In nervous fevers they employ, without selection, either Infus. Aromat., with angelica and Hoffman's anodyne solution, or kermes mineral with blisters and sinapism; but these medicines seldom produce a favourable termination, because the patients have become incapable of a struggle through the preliminary bleeding, which is employed in these cases also. In intermittent fevers, besides bleeding and purgatives, they employ quinine to the extent of fifteen or twenty grains during the apyrexia; but in bad cases, such as occurred, for example, frequently in 1829, their small bleedings are insufficient; and they do not trouble themselves about the sequelæ, taking no note of swellings of the spleen. It is thought that cold fevers were not so common during the Turkish sway, because care was then

* It would appear from a hint in the German original, that this substitution was not wilful, but arose from his confounding the first parts of the words *dulcamara* and *glycyrrhiza*, both signifying *sweet*—an explanation which may also apply to his using dulcamara as a *corrigens*.—*Translator's Note.*

taken to root up the Euphorbiæ. Gastric and rheumatic ailments are destroyed with the same sword, namely, bleeding and purgatives; and rhubarb often constitutes the whole treasury of a Greek physician. In violent rheumatic and arthritic maladies, in diseases of the skin, and in erysipelas, oils and balsam are employed externally, and, in case of need, Turkish baths; but most of these were destroyed in the war of liberation. The natural healing springs at Thermopylæ, Cimolos, Melos, and Cythnos, are frequently used. Capo d'Istria caused those of Cythnos, which are much frequented, to be examined by Kyber, Cabissol, Zuccarini, and Mahu; and Dr. Thraemer gives the principal results of their investigations from the *Courrier de la Grèce*, of July, 1830; he does not seem, however, to be acquainted with Landerer's fresh researches. Establishments like those of regular watering-places have not yet been thought of, but at Ricord's request the Emperor of Russia caused a considerable quantity of medicine to be delivered for the use of the visitors of the springs in 1833.

The primary appearances of syphilis are treated with calomel, corrosive sublimate, and mercurial inunction, until dangerous salivation, mercurial disorders, and secondary diseases, are frequently produced, which, however, thanks to the fine climate, do not always cause the frightful destruction that might have been expected. Of fifty-seven girls of the town, the Russian physicians found that fifty-one were infected; and of these many were labouring under condylomata, and ulcers about the anus, which is also frequently the case with married women *(e concubitu detestabili)*. In gonorrhœa, the Greek practitioners do not trouble themselves about the proper treatment of the inflammatory condition; they give diuretics (cantharides being in particular misused this way), and the Decocti Graminis, (Decoct. of Triticum repens, or couch grass), nitre, and cubebs.

Phthisis, which is here of rarer occurrence than with us, is not retarded in its last and rapid stage by the quinine and opium given with the hope of strengthening and soothing. An electuary made of aromatic herbs, with quinine, opium, and honey, is called *Mantschuri*.

Scurvy is often produced by the use of mercury, and is merely palliated by the external use of sulphuric acid. Cases of worms are treated indiscriminately by scammony from Lesbos, or colocynth from Cyprus. There is a secret remedy called λεβδιχόνθος, which is perhaps the same thing as Helminthocorton, or Mousse de Corse.

In ascites and hydrocele, puncture with a scalpel is often used; otherwise the only remedies are the expressed juice of the squill and onion. The Scilla maritima, which is there a common plant, is called κουρβόρα σκίλλα; but ὄρχιδα σκίλλα is the Satyrium orchitidis of Linnæus.

In colic, with or without diarrhœa, dry cupping is applied, which is often preceded by turning about the navel (γυρίρειν τὸν ὄμφαλον.); that is to say, an old woman places her fore finger on the navel, and then turns herself round the patient thrice, at the same time staring him in the face. Hæmorrhage from the uterus is treated with cinnamon; alum being said to produce barrenness.

Savine and cantharides are much misused in amenorrhœa; if the catamenia are too frequent, toasted spiders are given in powder, or, in spring, the cast sloughs of snakes, or else fresh walnuts.

In cramps, opium is administered, unless the aid of the clergy is sought; but the preventive is to wear stones taken from the head of the wild ass; and before an expected attack, the patient holds an ass's tail in his left hand. Lunatics are sent to the convents.

Erysipelas is not treated with internal remedies, but, by means of poultices, is forced into the suppuration, which is often frightfully destructive.

In jaundice, after bleeding, the yolks of eggs are taken, boiled with almond or nut-oil, and saffron; or saffron in an emulsion of melon seeds or linseed. The almond of an ox tongue, toasted and powdered, is said to have been of advantage occasionally.

Acute diseases of the skin are rare among children, not excepting small-pox; and the Russian navy physicians exerted themselves in diffusing vaccination.

Spring courses of physic are frequent; consisting of bleeding, purgatives, the application of two leeches to the anus, low diet for two or three weeks, and several doses of Lemnian earth taken daily for the same period. Patients are allowed for drink decoctions of barley, bread, rice, lemon-water [distilled lemon-peel water?] and syrup of maidenhair; macaroni and rice are given as food, and the patients are often injured by being allowed to eat fruit even when unripe. They also have fish, shell-fish, and mutton; fowls and lamb are considered as delicacies fit for the conclusion of the course. The Greek physicians, not excepting the better educated ones, leave surgery, even in its higher branches, to the inhabitants of the Rumeliot villages of Charmora and Argyrocastron; who, without anatomical knowledge, have a certain dexterity trans-

mitted from father to son, and from their very want of theoretical knowledge, fear no danger. These men are not deficient in the art of pulling the long bow; one of them, for example, would have it that he has drawn out a comminuted os femoris, and substituted in its stead the thigh-bone of a dog.

Swellings are treated either with emollient poulties or with stimulating ones, made of roasted onions, sugar, and mustard; swellings of the testis are not excepted from this method, as they always attempt to promote their spontaneous opening. Irritating ointments are applied to ulcers, and cupping-glasses or a leech to the adjacent parts.

Operations for hernia are performed without the least attention to the indications. Nor is the surgery of the eye better understood, for of four hundred children in the orphan-house at Ægina, nearly one-half had lost one or both eyes by staphyloma, inflammation of the cornea, &c. after Egyptian ophthalmia. The practice of midwifery is not to be thought of by physicians, particularly by foreign ones. In difficult labours, the midwives are said to place the woman by turns upon her head and her feet, and to press and bind the body in different directions: if this is of no avail, the husband is called in, who strikes her thrice with his slipper on the back, and cries out, "I have burdened you, I will unburden you!" and if nature proves insufficient, both mother and child die. The navel-string is torn off, or rather rubbed off with the nails, and the blood carefully stroked out of the part remaining on the child. After this, attempts are immediately made to bring away the placenta, while the woman is made to blow continually into an empty bottle; and if the after-birth is not easily expelled, some one catches hold of the woman's abdomen and presses it stoutly. The new-born child is besprinkled with ashes or salt, and is not cleaned for days or weeks; nay, one may see children a year old who have never been washed or bathed. The juices of plants, commonly given in Germany, are seldom employed in Greece; but opiates are used, or abused, for every uneasiness. Women in childbed have generally no medicine except anise tea, or a decoction of maidenhair; but venesection is sometimes employed if the lochia are scanty. The pudenda are covered with a poultice of rose-leaves, honey, and wine, or brandy, or sometimes alternately strewed with aromatic herbs dried and powdered, until the ninth day. No one goes out before the fortieth day. Spices, such as cloves, cinnamon, &c., inserted, together with cotton or wadding, are used against prolapsus and obliquity of the uterus. Dr. Thraemer gives an account of the first labour of a woman aged 16, where he was the accoucheur, and where he was deserted by two Greek midwives, whose silly doings he would not give way to.

In 1829, the first real quarantine establishment was set on foot at Ægina, which was followed by others at Lyros, Hydra, and Tiparenus; but the irregularities in them are said to have been frequent.

In 1828, hospitals were established for the regular troops, for 125—150 men at Nauplia, and for 60—75 at Patras. The civil hospital at Nauplia, founded in 1827, and restored in 1829, was given up to the French troops in 1832. The town hospital at Syra is poor in money, and not well off in other respects. The infantry should have six physicians, and the two squadrons of cavalry one; but these numbers have never been kept up. The medical officers, too, neglected their duty, and were not well overlooked. A physician whom they had in the ship Hellas, and another in a frigate, soon resigned.

In 1829, Mahu established a central apothecary's shop, and at a later period prepared artificial mineral waters. For forensic medicine nothing has been done.

[From a review of Dr. Thraemer's inaugural essay, "De artis medicæ in Græciâ statu hodierno," in the *Zeitschrift für die gesammte Medicin*, for January 1838. Dr. Thraemer was first physician in the Russian fleet, and visited Greece from 1828 to 1833. His treatise was published in 1836, and the reviewer observes, that since the author left Greece, several skilful German physicians, such as Dr. Wibmer, have been appointed to situations in the University of Athens, as well as the court apothecary, Landerer, &c.—Translator.]

CLINICAL CLERKSHIPS.

To the Editor of the Medical Gazette.

Sir,

Some months back* I endeavoured, through the medium of your valuable journal, to direct the attention of hospital physicians and surgeons to the better management of clinical clerkships. Whether those observations have ever met the eyes of that class of our profession for whom they were intended; or whether, if they have, they may be the means of successfully directing their attention to this subject, I cannot

* Medical Gazette for April last.

say; but I do at least hope that the admission of my letter into your journal evinces a tacit approval, on your part, of its contents; and if such be the case, it may not, I think, have been written in vain.

Some persons may think the subject of clinical clerkships one of little importance. Do such persons know what is the clinical clerk's office? It is diligently to investigate the history and symptoms of disease at the bed-side of the patient, and then and there to put them beyond the uncertainty of memory, by committing them, together with an account of the treatment and its effects, to paper.

As regards the clinical clerk himself, this is perhaps the most important period in the study of his profession, and the labour that it will cost him to get at the history of each case, accurately to describe and systematically to arrange the symptoms, will be amply repaid to him in his future career. "Professional tact" may be acquired by habit and by practice, but that thorough knowledge of disease under all its bearings, which alone can direct the physician to the proper use of remedies, can only be acquired by him who has constantly and laboriously surmounted these difficulties. To such a one, when called to the patient's bed-side all is clear and distinct, whilst the mere man "of tact" aims at random, and not only runs the risk of not hitting his mark, but of inflicting injury when he should have bestowed relief.

Such, then, are the advantages of the clinical clerkships in the education of the gentlemen holding these offices. What will be the influence of a well-kept register of cases upon the other students of an hospital? Some, perhaps, will say, to make them idle, by encouraging them to trust to others for investigating disease instead of to themselves. It might as well be asserted that a well-written history is a bad thing, because it discourages people from themselves searching for and compiling its materials. The industrious medical student who is obliged to move through the usual curriculum of education in the limited time allowed for that purpose, finds in a large hospital much to be done, and much to distract and divide his attention,—"Ὁ βιος βραχὺς, ἡ δε τεχνη μακρη, ὁ δε καιρος ὀξυς." When he has accidentally or necessarily omitted for a period to watch over a case, or when his attention has first been drawn to it at an advanced period of its progress, I need not say how inestimably useful to him will a good account of the case prove.

I may here likewise add, that not a few of those cases which are most instructive are so acute in their progress, and so severe in their symptoms, as to preclude the possibility (at least in point of humanity to the sufferer), of each student fully investigating the case for himself. He gets a glance at the patient when the medical officer makes his visit, and for the rest he has nothing to depend upon but the accuracy of the clinical clerk's report.

But perhaps the most serious light in which to view this subject is, the vast importance of the due administration of the clinical clerk's office to medical men and science generally, and through them to the public at large.

The medical science, as regards diagnosis, rests on the accumulation of evidence; and so, indeed, does the therapeutical part of our art; for nearly all remedies are experimental; by which I mean to imply that there is seldom such a natural relation between any remedial agent and a disease that we can *à priori* say that such a remedy will certainly cure such a disease. Our treatment in similar cases is directed by past experience—in dissimilar, by analogies. Now, had the vast number of facts which are daily, hourly, nay, momentarily transpiring at our large hospitals, been carefully, diligently, and impartially collected, what an immensity of knowledge would they have contained. Before such a mass of knowledge how quickly would many of the charlatans of the present age, with their misnamed sciences, have disappeared. Upon how much surer footing would many points of diagnosis have stood if established by the concurrent testimony of all, instead of by that of a few individuals most (but it is to be feared not all) actuated by an honest professional zeal. As I have before stated, it is experience alone that can prove the efficacy of any remedy; surely, then, it is a matter of no small importance to the profession at large, and to the public generally, that that experience should be obtained in the shortest possible time, and from the greatest possible variety of sources. Then, as to changes of structure found after death, the relations they bear to the symptoms during life, and the part they may have acted in the destruction of life, it is in hospitals chiefly that we must look for information upon this subject, and to well-qualified, industrious, and zealous clinical clerks, for so compiling that information as to render it available to the present and future ages.

I remain, sir,
Your obedient servant,
PHILOMATHES.

London, 3d October, 1838.

HYSTEROTOMY.

Dr. Gibson, Professor of Surgery in the University of Pennsylvania, has been successful a second time with this operation upon the same woman. It was performed on Sunday, November 5, ten hours after labour had commenced. The child's head presented at the inferior strait, and the membranes were ruptured. Some difficulties were experienced in extracting the fœtus, owing to the sudden and violent contractions of the uterus; this was, however, successfully accomplished by Dr. C. D. Meigs. We saw the patient a few days after the operation, through the politeness of Dr. George Fox, under whose care she was, and to whose judicious management of the after-treatment much of the ultimate success may be attributed. She was doing very well, and the wound healing rapidly. She told us she had suffered much less than when delivered *per vias naturales*. It is now eight weeks since its performance, and the woman has perfectly recovered, without a single bad symptom. The infant is in excellent condition.

This is an additional proof of the propriety of prompt action, when this operation is once determined upon. For a very interesting account of this woman's first labour, when cephalotomy was performed, see North Am. Med. and Surg. Journal, No. xxiv. Oct. 1831, communicated by Dr. Fox.—*Philadelphia Medical Examiner.*

RESECTION OF THE HEAD OF THE HUMERUS.

At a recent sitting of the Academy of Medicine, M. Baudens presented a preparation of the heads of humeri, which he had removed in consequence of gun-shot wounds received in Algiers. Three of these cases were completely successful, and the movements of the arms were in part preserved; two had seemed going on in every respect well, when they were carried off by cholera; and the sixth died of hæmorrhage.—*Archives Générales de Médecine*, May 1838.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, October 4.

William James Cowper, Guernsey.—George Jackson Longbottom, Liverpool. — Richard Brown, Wigan, Lancashire.—William Joseph Davies, Abercarne, Monmouthshire. — Thomas Henry Sharples.—John Waterloo Todd, Woburn. —Charles Bull, Brires, Suffolk.—John Snow, York.—Charles Edward Blair, Colchester.—George Robert Wyatt, Oxford.

Thursday, October 11.

Edward Harman Maul, Southampton.—Wm. James Bodger, Brentwood, Essex.—Ancell Ball, Horncastle.—Robert Harrison Bowness, Poulton-le-Fylde.—Richard Turnock, Leek, Staffordshire.—David Lloyd.—Thomas Saunderson, Bala, North Wales.—George Newnham Woolley.—Clement Mears Harris, Dursley. — Frederick Gaskell, Chelsea.—Richard Alford, Taunton.—Frederick Marston, Hull.—Thomas Millthorp, Arkendale.—Robert Blakiston Embleton, Sunderland.—James George Da Cruz Denham, Calcutta.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Oct.* 16, 1838.

Abscess	1	Hooping Cough	1
Age and Debility	18	Inflammation	19
Apoplexy	8	Bowels & Stomach	3
Asthma	2	Brain	1
Childbirth	3	Lungs and Pleura	3
Consumption	39	Insanity	13
Convulsions	12	Measles	2
Croup	1	Paralysis	5
Dentition or Teething	6	Small-pox	13
Dropsy	11	Sore Throat and Quinsey	1
Dropsy in the Brain	3	Spasms	1
Erysipelas	2	Stone & Gravel	1
Fever	7	Tumor	1
Fever, Scarlet	7	Unknown Causes	45
Fever, Typhus	7		
Hæmorrhage	1	Casualties	12
Hernia	1		

Decrease of Burials, as compared with the preceding week . . . 136

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

October.	Thermometer.		Barometer.	
Thursday . 4	from 41·5	to 55	30·28	to 30 25
Friday . . 5	40	58	30·23	Stat.
Saturday . 6	40	59	30·25	Stat.
Sunday . . 7	43	56	30·25	30·23
Monday . . 8	48	57	30·23	30·26
Tuesday . . 9	46	59	20·26	30·19
Wednesday 10	45	55	30·14	30 08

Wind, N. by E.

Except the 4th and afternoon of the following day, generally cloudy; a little rain fell on the morning of the 7th.

Thursday . 11	from 47	to 61	29·90	to 29·56
Friday. . . 12	45	50	29·58	29·62
Saturday . 13	30	45	29·65	29·79
Sunday . . 14	28	49	29·83	29·50
Monday . . 15	47·5	57	29·45	29·56
Tuesday . 16	54·5	61	29·56	29·40
Wednesday 17	50	57	29·26	20·49

Wind, S.W.

Except the 11th, 12th, and afternoon of the 17th, generally cloudy; hail on the 12th; a little snow on the 13th; and rain on the 14th, 15th, and morning of the 17th.

The change in the temperature registered in the above columns is worthy of remark.

Rain fallen, 22·5 of an inch.

Charles Henry Adams.

Wilson & Son, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, OCTOBER 27, 1838.

LECTURES ON SURGERY,

DELIVERED AT ST. THOMAS'S HOSPITAL,

BY THE LATE MR. CLINE;

With Notes.

[THESE lectures were written by Dr. Wilkinson when attending Mr. Cline's lectures, in the years 1787-88-89.

Extract of a letter from Dr. Wilkinson, dated Feb. 6, 1838:—"They (these lectures) are the results of six courses of lectures I attended at St. Thomas's, in 1787, 1788, and 1789; and I am in hopes I did not omit any interesting part of Mr. Cline's valuable observations. The one I had the pleasure of giving you is the repeatedly corrected copy."]

LECTURE V.

On the Nature and Treatment of Hernia.

Hernia is a tumor formed by some part of the contents of the abdomen so protruding as to be seen and felt externally. Sometimes it is formed by one viscus, or part of one only, or by more than one: an enlarged spleen comes under the definition. We have not only herniæ of the abdomen, but of the brain. We shall at present confine ourselves to the consideration of the former of these.

Several circumstances concur to the formation of herniæ. From the very strong efforts which the very powerful muscles of the abdomen are constantly making, they produce considerable pressure on that cavity, which frequently occasions certain parts of the peritoneum to give way; some being more liable to do so than others, as where considerable vessels are passing out. Herniæ, therefore, more frequently happen where vessels are passing from the cavity of the abdomen, than at other places; also that part of the peritoneum attached to the iliacus internus muscle, just above Poupart's ligament, is found adhering more loosely than in other places, and, of course, if considerable pressure is made on this part, the viscera are liable to protrude. Herniæ, from their different situations, are distinguished by the names of *inguinal*, *scrotal*, and *bubonocele*; which last, when so far enlarged as to be in the scrotum, is called *scrotal*, which is the same as the *inguinal*, only protruded further. If the tumor is at the upper part of the thigh, immediately at the bend between it and the abdomen, then it is called *crural*, or *femoral*. The peritoneum having protruded immediately under Poupart's ligament, might be considered as inguinal, but is not called so. A tumor very frequently forms at the navel, where the peritoneum has not such perfect support as at other parts: it is then called umbilical *hernia*, or *exomphalos*. It has happened in perineo*, from a protrusion of peritoneum at the superior part of the foramen ovale, called *hernia foraminis ovalis*. There is also another described, found only to exist in the female, a tumor formed in perineo, between the vagina and rectum. Besides these, we have sometimes protrusions between the several muscles of the abdomen, as in the linea alba and semilunaris: when between any of these parts about the abdomen, it is called *ventral*. Almost all the viscera have been occasionally found to form these protrusions; to this there are some few exceptions, of which the duodenum is one, being so firmly bound down at the poste-

* The thyroideal, or hernia of the foramen ovale, can scarcely be considered as perineal; besides which, such a description would be apt to confound it with the true perineal hernia, where the parts protrude in man between the bladder and rectum.—C.

rior part of the abdomen, and so firmly confined to the cellular substance; nor have the kidneys * or pancreas at any time been found in herniæ, both being confined posteriorly. All the other viscera have been found to make a part of them, as the stomach, liver, and spleen, which have been so far displaced as to form these tumors. The large intestines are very much confined, but they are every now and then found to form herniæ.

Herniæ are also frequently named from the contents; as when formed by intestine, *enterocele*: if by omentum, *epiplocele;* and when by both, *entero-epiplocele.* Also the urinary bladder has been known to form one of those tumors—then called *hernia cystica.* This can only happen in the inguinal and crural hernia: it could not be further displaced.

The contents of a hernia may be frequently determined by a careful examination. In an *enterocele*, the tumor is always regularly rounded: on pressure, there is a great deal of elasticity, from the quantity of air it contains; and the roundness of form, and elasticity when pressed, is uniform. When *epiplocele*, it is rather of an oblong form and irregular feel; if you grasp it in your hand, you feel an irregular substance underneath, readily moveable in the hernial sac. When of the compound species, you have the regular round form of the enterocele and elastic feel; and on grasping the tumor, you feel the irregular substance within, which is not distinguishable if there is intestine alone. The hernia cystica is distinguished by the tumor diminishing every time the urine is voided: if it has not entirely subsided after the patient has discharged his urine, by pressing it will disappear, the remainder of the urine being passed into the part of the bladder situated in the pelvis. In the *hernial sac* there is a good deal of variation, which we should have an accurate knowledge of, otherwise embarrassing circumstances would arise in operations for this complaint. A hernial sac is nothing more than a protrusion of part of the peritoneum, forming a projection through some aperture: and the structure of this must correspond with that of the peritoneum. The portion of peritoneum thus protruding soon forms adhesions to the surrounding parts, though when first it passes out of the abdomen it will be unconnected with the parts where it is situated, but it soon acquires union, in a greater or less degree, to them, sometimes so inconsiderable as to admit of the sac being moved upwards and downwards; at other times it is hardly moveable at all. The aperture through which it passes is commonly smaller than the size of the parts situated beyond, which therefore has the name of orifice or mouth of the hernial sac: you have a dilated bag with a narrow neck. It is the same in an umbilical hernia; that part where it passes through the aperture of the navel is smaller than that beyond. We also find these orifices become very much thickened, much firmer in substance than the other parts of the sac. This increase of thickness arises from the pressure that the peritoneum receives at that part.

The hernial sac varies in form also, being generally oblong, but sometimes round, as in ventral hernia. We sometimes find that a hernial sac is not only contracted immediately at the orifice, but has also contractions situated in other parts—sometimes two or more are to be found. These are circumstances necessary to be attended to, for in performing this operation we every now and then meet with such contractions, by which the stricture is sometimes formed; hence, though the ring be dilated, it is insufficient for the return of the contents: these contractions must likewise be dilated. These contractions are difficult to account for: that at the neck is very easily explained; the others, I believe, are formed from the hernial sac being from time to time elongated. You may have two or three or more contractions from fresh protrusions taking place from time to time; or they may be formed from patients wearing trusses, and irregular pressure being produced at different parts; however, in whatever way it may happen, it is necessary we should be acquainted with their situation, for sometimes the intestine passes down through several of those. In the operation you find the intestine may be incarcerated by these different contracted parts, so that it may be necessary to dilate them; and they are not unfrequently out of sight, so that you cannot get a view of them from an external incision, and can only ascertain their existence by passing in your finger. Besides these contractions thus occasionally formed, another circumstance every now and then happens—viz., *membranous bands* pass from one side of the sac to the other, forming transverse partitions; thus, a large hernial sac having been some time partly inflamed round these membranes, a portion of intestine may be so far entangled, that, without our being apprized of the cause, it would be difficult to extricate

* Dr. Monro says his father saw a boy, six months old, in whom both kidneys passed through large apertures in the muscles of the loins, and were covered by common integuments only, and the apertures were so large, that the kidneys could be easily reduced, but were with difficulty retained within the abdomen. (Vide Lawrence on Hernia.)—C.

it. There is an instance related in the Memoirs of the Royal Academy at Paris, where such a band was situated just at the orifice of the abdomen, where, after the intestine was supposed to be returned, the symptoms of obstruction of the bowels came on, and the patient died. It was found that the folds of the intestine were entangled in the band, so as to keep up the symptoms of strangulation. We ought, therefore, to see that the orifice is perfectly free after the operation, and that no part of the intestine is embraced or entangled there.

Herniæ are much more frequent in men than in women, which may arise from men being accustomed to much greater exertions: the pressure these give rise to on the contents of the abdomen subjects them more frequently to this complaint. Another cause is the large size of the abdominal ring. But in women, the space situated under Poupart's ligament is larger than in men, which causes them to be more subject to crural herniæ. Women are apt to conceal herniæ, from motives of delicacy; hence we may seldomer see them than in men. The formation of herniæ is most commonly very gradual: the tumor comes on almost imperceptibly, is very small at first, and the protrusion is very gradually increased, till at last it becomes of such size that the patient discovers it. Mostly while it is forming the patient is subject to cholicky sensations, from obstructions to the passage of the contents of the intestines, and which he remembers to have had before the tumor appeared. On a sudden the patient feels something give way, and, on examination, immediately discovers a tumor: this happens sometimes from a violent fit of coughing, sometimes from a blow being received. Laceration has been produced in some part. The abdominal ring may be torn from severe blows; and from the efforts of the abdominal muscles afterwards, a protrusion has followed. Herniæ vary in their size, being frequently so small as hardly to be distinguished, and at other times they are very extensive; when very large in size, it is generally from their having existed a great length of time without the patient wearing a truss, and thus the greatest part of the abdominal viscera may come to be contained within the sac. I have seen a scrotal hernia extending to the knees, so large as to contain half the viscera: this man was only capable of wearing a petticoat. This arose entirely from neglect. In hernia of such considerable size, the aperture is very large; so that, having reduced the viscera, you may thrust your whole hand into the cavity of the abdomen.

Herniæ may be considered in three different states—as *reducible*, *irreducible*, and strangulated or *incarcerated*. By the first we mean where the contents of the hernia may be returned; by the irreducible, when, from every effort we make, by varying the position of the patient, we find it impossible to return them: in the strangulated state, the parts are not only irreducible, but in a state of inflammation, the contents of the hernia being inflamed.

The reducible state is very various: it may be so easy, that varying the position of the patient may affect it. In other instances, though not so easy, it may be returned by pressure in a horizontal position; while it sometimes requires considerable efforts, long continued, and in a favourable position.

The irreducible state of hernia may arise from two causes—an alteration in the figure of the parts after they have descended, or adhesions taking place between them and the hernial sac. The irreducible state of hernia, on account of the altered figure of parts, mostly arises in the omentum; thus the patient shall have an epiplocele, and the omentum is suffered to remain in the sac, without his attempting to return it: as the abdomen of the patient is increasing in fatness, so is the omentum; that situated in the bottom of the sac will become more bulky than that within the narrow orifice; therefore the enlargement of the omentum will be similar to the growth of a vegetable in a bottle with a narrow neck. It also happens more frequently from some accidental inflammation, arising and producing adhesions between the sides of the omentum and hernial sac. If it produce adhesions between the two, it must ever remain so, it being impossible to return it.

The strangulated state is when the contents of the sac become inflamed, and consequently increased in size, which occasions the difficulty, or frequently the impossibility, of returning them into the abdomen; or, in a large protrusion, there may be more situated in the sac than will allow of the intestines performing their functions: the fæces accumulate, produce obstruction which occasions inflammation, and when once begun, it goes on increasing. This strangulated state of hernia is at once known from the symptoms which immediately arise. As soon as the functions of the intestines are impeded, it is followed by cholicky sensations, occasional sickness at the stomach, soon followed by vomiting. The tumor becomes very tense, and exceedingly painful to the touch. These symptoms are soon increased: the patient becomes exceedingly restless; has a hot dry skin, with a quick strong pulse; the nausea and vomiting are

more frequent; tenseness of the tumor still further increased, and the pain gradually getting more and more severe. These symptoms progress for a time, and the inflammation is extended into the cavity of the abdomen, in consequence of which it becomes tender, as well as the tumor; general tension takes place; the pulse becomes still quicker than before, the patient extremely restless, the stomach throwing up every thing as soon as received; during which time there is a constipation of the intestines, for the peristaltic motion becomes entirely inverted, till at last the patient vomits up bilious matter, the contents of the small intestines; the tumor is made larger by serum being thrown out from the inflamed vessels into the sac, which assists in distending it. Intestine or omentum being in this state, cannot continue long so without mortification ensuing, unless the pressure is taken off, by being returned into the abdomen, or the operation speedily performed. Hiccup often precedes, and indicates that mortification will soon take place. It is not a symptom of the actual presence of gangrene, as some authors say. The intestine being in the same state as if there was a ligature round it, stopping all circulation, gangrene takes place, which is known from the pulse changing from a quick and full to a slow soft one; also some irregularities and intermissions are every now and then felt—perhaps once in twenty or thirty strokes. To one who has not seen a number of these cases, the pulse would seem very natural, but it is the pulse of debility arising from gangrene of the intestines. At the time the pulse sinks the pain is less than before, the patient becomes quite easy, and the part which was before tender is now quite dead; he finds a great relief of all his symptoms, the tumor is soft, and not at all painful. I have known men of considerable experience deceived by these symptoms. Whenever there have been symptoms of violent inflammation, we ought to attend with the greatest care to every circumstance relating to the patient, that we may not be led into error, attending particularly to the state of the abdomen; if all the other symptoms appear favourable, and on examining the abdomen you find it tense, and some degree of pain on pressure, you may suppose the patient in the utmost hazard. This I have seen so often, that I am always apprehensive of mortification when the patient expresses great ease; it may also be discovered by feeling the pulse for a length of time: if there is an intermission in thirty or forty strokes, it is a sinking pulse, the consequence of mortification, rather than a pulse of health. There is also a glassy appearance in the eye. Though you may succeed in returning the hernia, if the patient's abdomen does not become soft, and continue so afterwards, danger is to be apprehended.

The causes of hernia are various. There are some fanciful ones related by authors. Some think it may be produced by particular diet, as eating too much oily food, which contributes to relax the parts so much that they readily protrude; hence some have observed that monks are more subject to hernia from this cause; but I rather think it is from their sedentary lives, which produces relaxation. Therefore we find that patients in a convalescent state are very apt to have hernia formed at that time; also inhabitants of hot climates are more subject to hernia: in either case, if a great degree of relaxation exists in the habit, whether from illness, state of constitution, climate, or the age of the patient, they are more subject to the complaint. Herniæ are therefore more common in infants than at other periods. While the parts are in this relaxed state, any considerable efforts are liable to produce hernia. Herniæ are also sometimes formed suddenly, from a violent blow being received, and lacerating a part, so that a natural aperture becomes increased in size—as the abdominal ring.

In the inguinal hernia the protrusion of the peritoneum takes place at the abdominal ring, and the course in which it passes is exactly that of the spermatic cord. The hernial sac in a scrotal hernia takes the same course, passing on the fore part of the vessels, between the epigastric artery and Poupart's ligament; then carried obliquely through the abdominal ring, gradually proceeding downwards to the inferior part of the scrotum. When a protrusion of peritoneum takes place, which passes before the spermatic cord, it must lie between the cord and fascia—the fascia covering it on the outside, and the spermatic cord being behind it. The hernial sac may be considered as entirely surrounded by a continuation of the fascia; also the spermatic vessels surround it at the same time. A hernial sac will be about two inches in length from the abdominal ring upwards, before you arrive at the cavity of the abdomen. The orifice of the sac, properly speaking, is not situated within the ring, but two inches above it, obliquely, which it is of importance to attend to, both in applying the truss and in the operation. Besides, it is erroneously described in all books as being situated at the orifice of the ring: this has occasioned a very improper manner of treatment in applying the truss, and a very

defective mode of performing the operation. In many instances of reducible scrotal hernia, to return the contents into the cavity of the abdomen, nothing more is necessary than a truss, with a pad properly applied to the orifice of the sac; if you compress the sides of the sac at the orifice, none of the contents of the abdomen can descend into the sac; if you make pressure below the orifice of the sac, a part of the intestines will still be protruded, it being open at the orifice, though closed below. A patient may be cured by the long-continued use of a truss properly applied, because it is gradually diminishing the opening in size, and will produce such a thickening, as well as diminution of diameter, that at length nothing will descend: there have been instances where it has been so contracted as only to admit of a probe, and, not unfrequently, it is entirely closed: though only considered as a palliative remedy, yet if long continued and properly applied, it is often a radical cure. A year is to be considered as a short time, and should not be depended upon. The truss should be continued for a considerable length of time after the patient is apparently well, as there may be still some opening left large enough to receive a small portion of intestine from some very violent effort, and when so narrow as to receive a small portion of intestine, it may produce inflammation, and all the symptoms of strangulated hernia.

When union has taken place of the superior part of the sac, and a part of it remains open below, a tumor may form there afterwards, from an accumulation of fluid; a hydrocele may form there, from the patient becoming dropsical; this has now and then happened after a patient has got well. It may be treated as the hydrocele of the *tunica vaginalis testis*. Also where a patient has been cured of a hernia by a truss, a second hernia may be produced at the same part by the formation of a second hernial sac, which he will be more subject to if the hernia of which he had been cured was large; for there is a dilatation of the abdominal ring, which remains afterwards larger and weaker than before, and a protrusion will be more likely to happen. The tendinous fibres are inelastic, and will sooner tear than stretch, yet, being a living part, they gradually undergo a change, and become elongated; hence the ring is sometimes three or four times larger than common. The bone likewise undergoes a change in its form, from the continued pressure.

When a hernia is irreducible, whether *enterocele* or *entero-epiplocele*, all that we can do is to direct the patient to wear a bag truss to support the scrotum, and prevent a further increase of it. If an irreducible *epiplocele*, we may apply a common truss, if the spring is not very strong, which will be attended with this advantage, that it will produce adhesion between the sides of the hernial sac and omentum, preventing further protrusion of it, and any probability of intestine descending: he will be so far cured as to prevent further protrusion.

We ought not readily to give up a hernia as irreducible; for there are some which, by proper management, may be brought to a reducible state, as when it happens from an alteration of figure only, and not from adhesion, as when a patient has had an epiplocele for some time, he finds that, from being capable of returning it for some months past, he has not been able to reduce it as before. If there has been no pain or inflammation in the part, we may conclude there is merely an alteration of figure. As this arises from an additional deposit of fat, that may be removed by reducing the constitution of the patient by a spare diet, continued for some time, moderate evacuations, and what will still further contribute to it, keeping the patient in bed for a fortnight or three weeks on a spare diet, purged every third day, in which time he will become emaciated, a very rapid absorption of fat will take place, and relaxation of the part favourable for reduction will be likely to succeed. When replaced, a truss should be carefully applied, and well retained in its proper situation, to prevent any further protrusion.

When a scrotal hernia has become strangulated, the first attempt should be for its reduction, which will be most effectual in taking off the inflammation. The patient should be placed in a horizontal position, or nearly so, as lying on the back, only raising the pelvis a little above the chest by pillows: the leg of that side being raised towards the pelvis relaxes the muscles, and takes off the pressure of the fascia. While the patient is in this situation you grasp the tumor, and with the other hand (with the finger and thumb) you grasp the hernia above, near the ring, the intention of which is to diminish the size of the protrusion there: thus you gradually squeeze it through the ring. The pressure should be moderate, and uniform throughout. Violence might increase the inflammation, or produce a rupture of the intestines, which would be fatal. Though moderate, it should be continued for a considerable time. Moderate pressure for a long time, together with the peristaltic motion of the intestines, will favour their extricating themselves, so that frequently of a sudden they are felt going

inward, which is known by a guggling sensation. The remaining portion is soon reduced. This should be done with great caution and perseverance. You should not give up an irreducible hernia because the parts are not giving way. If you should fail in the first attempt, you are then to favour the abatement of inflammation by bleeding largely; if attended with syncope, it is then a favourable opportunity for again attempting the reduction. Next the warm bath should be used, which is frequently attended with very good effects, almost immediately alleviating the pain and diminishing the force of the circulation; and by keeping the patient there for a consideral time faintness is produced, which is another fair opportunity for reduction. If these should fail we are advised to give purging medicines by the mouth, to stimulate the intestines: this I believe to be prejudicial, as the intestines are in greater action than natural. By stimulating them the sickness of the patient is increased. Often, when remaining at rest and free from nausea, the taking any thing into the stomach excites the nausea, thereby favouring the return of the intestine into the sac instead of the abdomen; hence all medicines by the mouth are prejudicial, excepting opium. The abatement of the peristaltic motion will be in some degree rather favourable than otherwise, as it will retard the progress of inflammation. Clysters may be given with considerable advantage, sometimes as a fomentation to the part, or as a stimulus; or, what is more effectual, is a narcotic clyster, as tobacco smoke, or infus. nicotianæ, ʒss. ad ℔j., which I have frequently found successful. When given in the form of clysters it produces considerable abatement of pulse, and general relaxation is often the consequence, during which time the hernia will frequently return. I have known these succeed, without any pressure, when every thing else has been tried and failed.

External applications to the part, I believe, are of little service. Two kinds are recommended, warm and cold. Warm applications, in the form of fomentations, which may have some effect in abating the inflammation, are supposed by some to produce an expansion of the air contained in the intestines. But it is now known by the experiments of Dr. G. Fordyce, that great heat applied to external parts hardly produces any alteration in the internal parts; therefore the application of poultices or fomentations produces no alteration in the size of the intestines, but as a sedative may sometimes abate the inflammation.

Cold applications have been used with a view of diminishing the bulk of parts, as the volume of air; but this, as before said, produces no variation in the internal parts. As cold is a very powerful sedative, so far it may be useful. Solutions of Sal. Ammon. Crud., or any other salt (while the salt is in a state of solution it increases the coldness of the water), will be a good application. If snow or ice can be procured, it will be still better. I have known ice applied to a hernia till it has absolutely froze the skin; however, the hernia still remained unreduced, yet it evidently stopped the symptoms, and even the inflammation. It was determined then to perform the operation; the incision was about to be begun, when a guggling noise was heard, and it was found the intestine had passed up. In this case I make no doubt that mortification would have taken place before many hours. It is supposed by some, in returning a hernia, that the sac is often returned into the cavity of the abdomen; this, I believe, is very rare, for generally the sac, after it is formed, soon takes on adhesions with the surrounding parts.

CLINICAL LECTURE

ON THE

TREATMENT OF DISEASES OF THE HIP-JOINT,

Delivered at St. George's Hospital, Nov. 14, 1837,

By Sir Benjamin C. Brodie, Bart.

Lecture III.

In the last lecture I began the subject of the treatment of diseases of the hip-joint, and I explained to you that without reference to what the disease is, there is one kind of treatment applicable to all these cases—I may say, indeed, applicable to all cases of diseased joints—namely, the taking away of the function of the joint, and keeping it in a state of complete immobility. I repeat this observation, at the risk of being tedious, because it is a rule of the first importance. This is the principal improvement in the local treatment of diseased joints made of late years. Formerly, patients were allowed to use their limbs, and now they are not allowed to do so, the bones being kept in a state of repose, with as much care as in a case of fracture.

Then I explained to you that in cases of diseased hip there are different ways of attaining this object; that sometimes you may apply a leathern splint, something like what we apply to the ankle or the knee; that at other times we put on a great quantity of plaster and bandage, in alternate layers; and that in

other cases it is quite sufficient to keep the patient lying on his back on one of Mr. Earle's invalid bedsteads.

In cases of inflammation of the synovial membrane, you are to employ that treatment which you would employ in other cases of inflammation. When the inflammation is very intense, it may be necessary to take away blood from the arm; but it is generally sufficient to bleed locally, by cupping on the nates, or by applying leeches to the groin; or you may cup on the nates first, and then apply leeches to the groin afterwards. The patient should have his bowels kept open; and if there be any febrile excitement of the system, he may require antimony or some other diaphoretic medicine. However, in general, inflammation of the synovial membrane of the hip is of a chronic character, not disturbing the constitution, nor requiring remedies of this last-mentioned kind.

As the inflammation recedes, you may apply blisters in the neighbourhood of the joint—on the nates in the groin also. The skin of the groin is nearer to the hip-joint than the skin of the nates, and blisters and other local applications may be made in the groin with very great advantage.

Occasionally other remedies may be employed with advantage. In cases of inflammation of the synovial membrane of the hip, as well as in cases of this disease when it occurs elsewhere, especially in private practice, among the more affluent classes of society, who live luxuriously, and do not take sufficient exercise, or in those who expend their nervous energy in intellectual pursuits, and have not sufficient left for the physical part of the system, you will find it connected with a gouty diathesis. The patient complains of acid generated in the stomach after his meals; of heartburn; he is flatulent; he rests uncomfortably at night; he has flying pains about him besides those of the hip; the urine which is made 3 or 4 hours after dinner is voided clear, but when it cools it deposits a great quantity of sediment; sometimes there is a pink sediment, which stains the chamber utensil, making it look like what is called a *pink saucer;* and sometimes there is a yellow sediment. These sediments are composed chiefly of lithate of ammonia, and they indicate a tendency to acidity in the stomach, and to gout in the system.

When inflammation of the synovial membrane of the hip occurs under these circumstances, in addition to the treatment, which I have already mentioned, you may employ other remedies. Occasionally give an active purgative, and keep the bowels gently open in the meantime. About 3 or 4 hours after breakfast, and 3 or 4 hours after dinner, let the patient take a dose of magnesia, or potass, or soda, to neutralize the acid which there is then in the stomach. I do not think that medical men in general, when they prescribe magnesia and the alkalies, are sufficiently careful to tell their patient at what particular times to take them. They are to be taken when there is acid in the stomach to be neutralized. There is none in the morning before breakfast; and these alkalies taken in the morning, at any rate do no good, and probably are injurious. There is the greatest quantity of acid in the stomach about 4 hours after a meal, and subsequently to that period it has begun to get into the system, and then produces the secretion of lithic acid by the kidneys. Your object is to neutralize the acid before it passes into the circulation, and you must do that when the acid is in the stomach. A patient told me the other day, who had inflammation of the synovial membrane of the knee, accompanied with this pink deposit, that he had observed that if he took the alkali 3 or 4 hours after a meal, there was no pink deposit; but that if he took it 5 or 6 hours afterwards the deposit appeared as usual. Another remedy, very generally useful in these cases, is *colchicum.* If the pain in the affected joint be very severe, and it is connected with that peculiar state of the system which I have just mentioned, the tongue being at the same time tolerably clean, you may give half a drachm of *vinum colchici* two or three times daily, for a few days, till it begins to create nausea, or to disturb the bowels. But in less urgent cases I prefer giving it in a milder form. You may exhibit 2 or 3 grains of *Ext. Acet. Colchici* every night, combined with a small dose of the compound extract of colocynth. This must be taken for ten or twelve successive nights. Sometimes the *colchicum* produces yellow stools, shewing that it stops the secretion of bile; and to counteract this tendency, you should add 1 or 2 grains of blue pill to each of the pills.

There are other cases of inflammation of the synovial membrane of the hip, connected not properly with a gouty tendency, but with rheumatism, and where the patient may derive great benefit from taking some mercurial preparation—Plummer's pill, or calomel and opium, for example; and the latter may be exhibited in severe cases, so as to affect the gums.

Inflammation of the synovial membrane of the hip, when it has any sort of attention paid to it, very seldom goes

on to any ill consequences. In a very few rare cases, as I have already explained to you, it terminates in what has been called spontaneous luxation of the hip. It seldom terminates in absolute anchylosis, but very frequently there is a great degree of stiffness of the joint for a considerable time afterwards. Anchylosis, however, occurs occasionally. A patient was admitted into this hospital, who was observed to have something odd in his gait as he walked, but he did not complain of his lower limb at all, and therefore nobody took much notice of it. He had some pneumonic disease, of which he died under the care of the physician; and on examining the body after death, we found that there was complete anchylosis of one hip, but not bony anchylosis. There were the remains of the capsular ligament and synovial membrane closely adhering to the parts below: there was a thin layer of cartilage between the bones, but merely a single layer, as if the cartilage of the head of the femur and the acetabulum had become united to each other. I do not know how the circumstances of this case can be explained, except by supposing that it was the result of inflammation of the synovial membrane. Had the anchylosis been the consequence of ulceration of the cartilage, the cartilage would of course have disappeared.

The treatment of those cases, which unfortunately are of such frequent occurrence, of scrofulous disease of the hip-joint in children, having its origin in the bones, and then extending from them to the cartilages and other structures, is very simple. If you are called to a child in the early stage of the disease, when he limps and complains a little of pain, or perhaps does not complain of pain at all, the local treatment should be simply negative. *Keep the hip-joint in a state of perfect immobility*, which you may accomplish by a leather splint, by plaster and bandages, or merely by the invalid bedstead. I repeat that *this is all the local treatment which the disease requires, if you are called to the patient in the first instance.* I remember the time when in these cases we were in the habit of applying leeches, blisters, and issues. I am satisfied, from all I have seen of the two kinds of practice, that the abstraction of blood and the application of counter-irritants, not only do no good, but that on the contrary, by weakening and worrying the patient, they sometimes do great harm. In my own practice I have been much more successful since I laid aside all these painful remedies, and relied merely on perfect rest.

Perfect rest will do a great deal towards stopping the progress of the scrofulous disease in the joints; that is, when it has taken place in the bones, it will prevent the ulceration of the cartilages; if the cartilages are ulcerated, it will prevent the ulceration extending further; and if matter is not yet formed, it will retard, or even prevent, its formation. Yet after all, this negative treatment does not strike at the root of the disease, which is not in the part in which the disease shews itself, but in the patient's constitution. You may well suppose, that mere rest will not correct a scrofulous constitution; and that for this purpose you must have recourse to other means.

To lay down any rule of constitutional treatment, such as will be applicable to all cases, is not possible; you must exercise your discretion in each particular instance, and I can only undertake to give you some general notions as to the plans which you should pursue.

In the first place, then, you should take care that the digestive organs are properly attended to: if the bowels are confined, purgatives should be administered according to circumstances. If there be a deficiency of bile in the evacuations, a little mercury should be carefully exhibited, to correct the faulty secretion. The child will then require some kind of tonic. Various tonics may be employed with advantage, some in one case, some in another; but the remedy in which my experience leads me to place the greatest confidence is some preparation of iron; and in children I find nothing answer better than steel wine. I do not mean the modern steel wine, which contains scarcely any steel, but the old wine, made according to the old Pharmacopœia, and which is almost of a black colour. There is no occasion for giving it in large doses. To children of 3 or 4 years of age, give a drachm twice daily; if the child be a little older, give two drachms; and to one approaching the age of puberty, you may give three or four drachms for a dose. It is not important in these cases that the steel should be taken in a large quantity, but it is important that it should be continued, with occasional intermissions, for a great length of time. The best cures that I have seen, not only in cases where the hip-joint was affected with the scrofulous disease, but also where the disease was situated in the knee and other joints, and even the spine, have been in those cases in which steel has been given, off and on, for a great length of time — for 3 or 4 years, or even longer. I give it for a month, then stop it for ten days; I then give it for another month, then stop it for ten days again, and so on, combining purgatives with it, according to circum-

stances. This system, in four cases out of five, agrees with the child exceedingly well. You will not see any marked improvement at the end of the first month, but you will at the expiration of six or twelve months. I could tell you of families where the most delicate of the children have by the long-continued use of steel, in this manner became the strongest of the whole set. I do not think that steel in these cases is, under ordinary circumstances, given to a sufficient extent. The parents get impatient of giving the child medicine every day, as well as of the expense of medical or surgical attendance, and the medical man himself naturally becomes tired of his attendance under these circumstances. There is no perceptible improvement from day to day, and it is difficult to command confidence where the change is not visible perhaps for six months, and to induce the patient or the parents to persevere in the use of this, or any other remedy for so long a time.

But such perseverance is really what is required, and it is necessary to explain it to the parents in the first instance. Of course I am now supposing that steel agrees with the child; but there are some who cannot take it except in small doses; and there are others who cannot take it at all without its producing headache, making them costive, heated, and feverish. Other tonics may then be exhibited, such as quinine, some of the bitters, or what, perhaps, is better still, the alkaline infusion of sarsaparilla. The latter is a very excellent and useful preparation, and I will give you a formula for preparing it, as it is not in the Pharmacopœia:—To make a pint of the infusion, you take two ounces of the root of Jamaica sarsaparilla, cut and bruised; then you add two drachms of liquorice root, to cover the taste of the sarsaparilla; to this you add two drachms of the *liquor potassæ*, and about 18 ounces of boiling distilled water; macerate the whole in a close vessel for about 20 hours; strain off the liquor, and you may give the patient, according to his age, from 4 to 6 or 8 ounces of this infusion daily.

But there is still another method of improving the child's constitution: let him live in the fresh air as much as possible. All that I have seen leads me to believe that nothing tends more than this to strengthen a delicate constitution: of course I mean, not that the child should be exposed to cold, or wet, or night air, but that he should pass his time out of doors in fine and temperate weather. In the summer his couch may be placed in the garden, and he may remain there during a great part of the day; if it can be managed that he should reside at the sea-side, it will be so much the better;—I say *reside*, for as to his being taken for a month or six weeks to a sea-bathing place, the benefit which he will derive from it is not such as to compensate the mischief which may arise from the journey, especially if it be to a distant place.

The period during which it is necessary to keep the patient in the recumbent posture, must vary very much in different cases: in some cases, three or six months may be all that is wanting; in others, the patient must perhaps be kept lying down for twelve months; and where the joint has been destroyed by an abscess, and the bones have become displaced, even a much longer period may be necessary: but I shall speak of these last cases presently.

The treatment of those cases in which the cartilage of the hip ulcerates, independently of that scrofulous disease of the bones which I have just described, and which we call, by way of distinction, cases of primary ulceration of the cartilage, (though it may sometimes be originally disease of the surface of the bone, and sometimes of the cartilage itself—two orders of cases which I cannot pretend to distinguish in practice) in many respects resembles the treatment of scrofulous affection of the hip-joint. The patient must be kept in the same state of perfect immobility; but he does not in general require the same treatment otherwise. Very often he will derive much benefit from a course of sarsaparilla; at other times he will derive still greater benefit from being put for a certain time under the influence of mercury. In many of these cases he will derive benefit from the employment of what we call *counter-irritation*. Although I do *not* recommend the employment of blisters and caustic issues in other cases of disease of the hip-joint, yet I *do* recommend them here. You may apply a blister to the nates, or to the groin, or you may make a caustic issue behind the trochanter large enough to hold 12 or 15 peas. Usually, however, I keep the issue open, not by peas, but by rubbing the surface of it about once in a week with the caustic potass, dressing it in the meantime with the savine cerate. You may distinguish where you ought and where you ought not to employ these means with sufficient accuracy; thus, if the disease has not been marked by much pain previous to the formation of matter—if there has been limping for a long time with scarcely any suffering—you may conclude that the case is one of scrofulous disease, and that counter-irritations are unnecessary; but if the disease has throughout its whole course been accompanied by pain, becoming gradually more severe, then you may conclude that it is not one of those scrofulous cases, and that counter-irritation will be bene-

ficial. I speak of pain, observe, previously to the formation of matter; for when matter is formed in the joint, there is severe pain in all cases. Where the pain is very severe, and is not relieved by a caustic issue behind the great trochanter, you will sometimes afford great relief by making a seton in the groin, in the fore part of the joint. I suppose that the pain in part depends on irritation communicated to the anterior crural and obturator nerves, and that this will explain the relief obtained from a seton made in their vicinity.

I have hitherto said nothing regarding the treatment of abscess connected with the hip-joint, having reserved my observations on this subject to the last, because the treatment of abscess of the hip is pretty much the same under all circumstances—whether the disease has begun in the synovial membrane, the bones, or the cartilages. Whenever you find that the patient complains of a great aggravation of his former symptoms, when the pain becomes intolerable, the limb starting at night, and the pulse becoming increased in frequency, you may always suspect that matter is forming in the joint, and that the acetabulum is becoming filled up with matter and lymph. You may, under these circumstances, employ fomentations, which may help the patient a little, but not much. If the pain be excessive, you must give opium, though I am not desirous of giving it without ample reason for doing so, on account of the ill effect which it produces afterwards on the digestive organs. By and by the abscess presents itself externally, and this is almost invariably followed by a shortening of the limb, produced in one or other of the ways which I mentioned formerly.

When the abscess presents itself, you will feel it, and you may even see it; but if it is yet deep-seated, I would not advise you to open it, because, first (especially in the cases of very delicate children), there may be a loss of blood which the patient cannot afford, and, secondly, because under these circumstances the wound will heal directly, and the matter will become pent up as it was before. An exception, however, to this rule may be made in those cases in which you find an abscess burrowing under the fascia, instead of coming forward to the surface, and then it may be right to make an opening through the fascia, to prevent the destruction of the parts below.

Different methods have been recommended for opening these abscesses; but I shall not occupy your time by a critical discussion as to their respective merits. Some have advised an oblique or valvular opening, others a direct opening; some have advised us to keep the orifice open, and others to heal it; some have advocated the use of the lancet, others of the caustic potass. I shall merely tell you what, according to my experience, is the best mode of managing these cases. The patient having keen kept for a considerable time in the recumbent posture, when the time arrives at which you think proper to open the abscess, do it with an abscess lancet, or double-edged scalpel, and make a large opening, so that the matter may run out freely of itself; and that there may be no obstruction to its discharge from the opening becoming blocked up by curdly matter or flakes of lymph. But having done this, be satisfied that you have done all you ought to do. *Never squeeze and compress the parts to force out the matter; never move the limb for the same purpose, nor allow others to do so.* If you attempt to squeeze out the matter you bring on inflammation in the cyst of the abscess,—you induce bleeding from the small vessels on its inner surface—the blood collected in the cyst of the abscess mixes with the pus, and becoming putrid, produces great constitutional disturbance, taking on the character of typhus fever. It is said that bad symptoms often come on on opening an abscess; but I believe that for the most part it is not the opening of the abscess, but the rough hand of the surgeon in trying to squeeze out all the contents of the abscess, that does the mischief.

Then, are you to bring the edges of the wound together, and heal it, or not? My own practice is to apply a poultice, and to leave the wound to take its own course. On the whole, I would rather that the wound did not heal; but I do not usually endeavour to prevent it healing by introducing lint into it, lest this irritate the inner surface of the abscess, and excite a mischievous inflammation in it. If it does not heal, it is so much the better; the matter continues to flow out, and the cyst of the abscess gradually contracts. If the wound does heal, the matter will of course be again collected, and you must make another opening. If the abscess should present itself in two or three different places, do not be satisfied with one opening, but make an opening wherever it presents itself, as otherwise there can be no proper evacuation of its contents.

In the majority of cases in which abscess has formed, the cartilage is destroyed, the bones are carious, the synovial membrane and ligaments have in great measure disappeared, so that there is really no joint left. The case may now be compared to one of compound fracture, and you are to treat it just in the same manner, by keeping the limb in a state of perfect immobility, and

taking care that the matter should flow out as fast as it is generated; but it may take a long time for this abscess to heal—months always, and even years in some cases. But anchylosis will be going on all the time, though the period of its completion varies. In the scrofulous disease of the bone, it takes a long time for bony anchylosis to be effected. If you examine the limb many years afterwards, you will often find that the anchylosis is not by bone, but by a sort of ligament. But when the cartilages are ulcerated independently of the scrofulous disease of the bones, the bones being in a tolerably healthy state, bony anchylosis takes place at a much earlier period.

As soon as you find that the thigh and the pelvis move completely together, there being no perceptible motion of the joint, you may be satisfied that there is sufficient anchylosis to enable you to allow the patient to begin to take exercise on crutches.

In all cases the patient experiences great pain at the time that the head of the thigh-bone is being pushed out of the socket, or if the head is destroyed, when the neck of the femur is drawn up and lodged above the acetabulum: and this pulling up of the head or the neck of the thigh-bone is always followed by great and permanent distortion of the limb. Can you do any thing to prevent those sufferings, and the subsequent distortion? The patient suffers because the head or the neck of the femur is leaving its own place, and getting into new parts which are not intended to have the rough bone in contact with them. I have in some instances endeavoured to prevent this by mechanical means,—that is, by the application of an extending force to counteract the action of the muscles: and a very slight force is sufficient for this purpose. It is astonishing what comfort I have known this to give the patient in some instances. As soon as you have reason to think that the limb has begun to shorten, you may begin to make a gentle extension below, so as to counteract the action of the muscles above; and experience shews that this may be done with the most perfect safety.

As to the mode of accomplishing this object, it is sufficiently simple. The patient is to be placed on his back, on the treble-inclined plane of an invalid bedstead, with his shoulders and his thighs a little elevated. An upright piece of wood is fixed to the foot of the bed, and in this upright piece of wood there is a pulley, which pulley is just in a line with the thigh-bone. There is a bandage round the patient's thigh above the knee, a string extends from each side of the bandage, and joins another string which passes over the pulley. At the further extremity of this last string there is a very light weight attached—a few ounces of shot or some copper penny pieces put into a basket are sufficient in the case of a child. You often require a great extending force to counteract the powerful action of the muscles in reducing a dislocation, but a very slight force, constantly acting, is sufficient to counteract the weak action of the muscles in these cases. My experience of this practice leads me to believe that by the adoption of it you may prevent a great deal of the pain and suffering belonging to these cases, while at the same time this method has a tendency to lessen very much the ultimate distortion of the limb.

I have spoken to you in these lectures of the ordinary diseases of the hip-joint; and it is not my intention to enter into the history of the diseases of more rare occurrence. I have known instances of scirrhous disease and fungus hæmatodes of the hip; and then there are hysterical affections which simulate the symptoms of other diseases. I gave lectures upon the latter of these subjects a year ago, and these have since been published. A knowledge of these hysterical affections is of great importance, in order that you may not be in danger of confounding them in practice with cases of actual local disease; but under the circumstances which I have just mentioned, I feel that it is quite unnecessary for me to enter into the consideration of them at present.

CASE OF FITS WITH VERY SLOW PULSE.

By John R. Gibson, Esq.

[Concluded from p. 126.]

The pathological condition which existed in the case above detailed, and which gave rise to the fits, was involved in great obscurity. It was evident there was great interruption to the heart's action; that this interruption was always sudden, and more or less prolonged; and if we may be allowed to reason on the ground of probability, in the place of proof, it was also evident that the fits were dependent on this interruption to the action of the heart; for, after a due lapse of time from the last stroke of the heart, the symptoms ushering in a fit immediately commenced, and were either continued and augmented to the development of a true fit, if the heart did not quickly act; or, if it did, they

were diminished, and perhaps entirely subdued. This condition was so true and so constant, that no doubt at all could exist upon the question of how far the fits were determined and regulated by the action of the heart, inasmuch as when the interval was short there was no perfect fit, merely the pallor without loss of sensibility, &c.; but if the interval were longer, the symptoms constituting a true fit were produced, and became either violent or slight, just in proportion to the length or shortness of the interval. Now such was the condition which observation taught us: the question, however, arose —upon what this interruption of the heart's action depended? It was vain to speculate upon such a point from the evidence which was then before us. It was suspected whether ossification of the coronary arteries did not exist, and how far such a condition would determine such symptoms. It was also conjectured how far an obstruction to any nervous supply would act; but supposing any physical obstacle existed to the proper supply of nervous energy, such obstacle could not be permanent, for the history of the case could not warrant such a conclusion: if, then, merely temporary or functional, through what organ, or in what way?

When I first saw him the pulse was beating steadily, without the least irregularity or intermission, at the rate of 22 in the minute. He had partaken of salmon at dinner, and had vomited, which was a very rare occurrence. There was some nausea, and a degree of fulness about the abdomen. The surface was bedewed with a cold clammy sweat, and I was certainly greatly disposed to regard these fits (I had not then seen one) as connected in a great degree with a disordered condition of the alimentary canal, and ordered accordingly the medicine mentioned in the report, with a view of clearing out the bowels, relieving any acidity which might exist, and arousing the circulation. It had the effect of freely moving the bowel; but the circulation, instead of being aroused, was slower, being but 18 in the minute, and with the additional symptoms of irregularity and intermission. The evacuations had been very offensive, and I determined on continuing the medicine, but reducing the dose of the aperient, and increasing the dose of the stimulant. I then examined the heart with the stethoscope, but could make out nothing satisfactorily. There was no unnatural sound, but the proper sounds could not be distinguished; the impulse could be felt, but nothing more was distinct. In the afternoon I saw him again; the fits had continued with very little intermission since the morning, sometimes being slight, at other times more violent. During my visit he had several in quick succession; and from the great congestion which they produced, I determined on taking away a few ounces of blood. While the blood was flowing he had two or three fits, and it did not appear to afford any benefit. In the evening I saw him again, and a medical friend accompanied me. During our visit he had no fit. My friend suggested the application of a blister to the nape of the neck, and some assafœtida mixture in combination with some aromatic spirits of ammonia. He passed the night pretty free from fits, and had sleep. About nine this morning the fits returned. The surface was warmer than on the preceding day, but there was no improvement in the circulation. Some good beef-tea was to be given him during the day, and occasionally a little gin and water, which he preferred to any other spirit, and some beer or wine if he desired either. The fits continued through this day. In the afternoon I ordered a stimulating draught to be given every ten minutes or quarter of an hour, but it produced no good effect. On this evening Dr. Roots saw him—ordered some caudle to be given him, and the stimulating medicine, which, if any thing were calculated to arouse the heart's action, these were; but they failed; and the next morning, after having struggled through many a long and serious fit, and having hitherto gained the mastery, he was now compelled to yield to their strength, and yielded with his life.

To the *post-mortem* examination we must resort for an elucidation of these very anomalous symptoms. We find no disease about the heart or its own vessels which would in any way account for the sudden cessation of its action. Nor do we find any affection of any distant organ which would at all aid us in our inquiries; but we do find the aorta dilated, ossified, and otherwise diseased; and it is to this, and this chiefly, we must look for a solution of

our difficulty. The dilated state in which we found the aorta of this subject, can, I conceive, only be produced by some obstruction to the flow of blood in its course; and whether the obstruction be far or near from the commencement of the vessel, the greatest dilatation will be found where the force of the blood, as derived from the action of the heart, is greatest—where its muscular force is more directly expended. The amount of dilatation will, of course, depend not only on the degree of obstruction, but on the situation in which the obstruction exists; inasmuch as when the obstruction is low down, and below the principal vessels which are given off from the main trunk, these will afford a large amount of blood to flow into them, and, as such, render the necessity of distension of the main trunk much less called for; but when the obstruction is high up, and above the principal branches, the blood propelled into the artery, not having the advantage of the collateral vessels, must necessarily be retarded in its course, and cause a proportional dilatation. The situation, however, at which the greatest dilatation would be found, would be that part of the aorta where the greatest muscular force of the heart is expended, the blood already in the vessel not being permitted to escape. Now this part would be the arch of the aorta, and it was here where the greatest dilatation was found. It is not necessary, I conceive, to insist upon the necessity of there being some obstructing cause to the flow of blood through the vessel, in order to produce dilatation, under a healthy condition of the heart; for the flow of blood through the vessel under a natural condition of parts would be so uninterrupted and free, that to suppose a dilatation would be seeking to establish a provision which nature has neither made nor intended. To meet, however, an argument which might be raised, that the aorta in the present case was diseased, and as such its elastic properties greatly overcome—that it would therefore yield to the continued impulse of the heart, producing dilatation, let it be borne in mind that, although the artery was diseased, and its elastic powers greatly lost, the artery at its commencement was almost free from any apparently diseased condition; that this commenced below the arch of the aorta, and increased as we proceeded onwards. It is, however, useless, I conceive, to meet such argument, as it is quite inapplicable to the present case, inasmuch as an obstructing cause does exist—the ossified state of the aorta at its division into the two iliacs. Moreover, the obstructing cause does not consist simply of the ossified state of the vessels, but the situation in which the ossification is found. It is at the inner and posterior part of each vessel, from their very commencement to some little distance along them. Now it must be, I think, apparent that this situation, of all others, would be most favourable to any impediment which might be offered to the flow of blood into them. From the direction of the aorta, the very course the blood must take in entering the two iliacs would be to strike against the inner side of each vessel; and if these, instead of presenting a smooth surface possessing elastic properties, adapted to the free circulation of the blood through them, present a rough, projecting, and unyielding surface, ill adapted to the mere transit of any fluid, and altogether so in aiding the motion it has already obtained, it will hence be manifest that the arrest to the flow of blood must have been by no means slight, but equal, and more than equal, to produce the dilatation on the upper part of the aorta.

A further reason, although not so forcible a one, may yet be assigned for a sluggish flow of blood through the aorta. It will be remembered the aorta presented those yellowish white spots very commonly observed, and which M. Bizot considers as terminating sometimes in ulcerative softening, at others as forming the nidus for the deposit of ossific matter. Now all these several conditions existed; the spots before referred to were numerous, in some places forming patches. There was one spot about the size of a sixpenny piece, in which ulceration had taken place; and in another, ossification. Such a condition of the aorta, although not incompatible with the performance of its function, must have rendered its discharge very imperfect, by being but little able to impart fresh vigour to the flow of blood, and in some places to offer actual impediment to it.

Another point fully worthy of comment has yet to be noticed: it is the ossified condition of the branches of the internal iliac artery, forming a still further obstructing cause. Here our in-

vestigations into the state of the arteries terminated. We may now enter the boundless regions of conjecture; but without entertaining any extravagant notions, or unlawfully exercising our liberty, we may fairly infer, that had our investigations proceeded further, arteries, perhaps many arteries, unavoidably unexplored, would also have been found in the same diseased condition. The sluggish state of the circulation is also supported by another fact, that his extremities were always cold, and so cold, I have been informed by his daughter, have his hands been on one of the hottest days this summer, that it almost produced a chill in holding one. The slow state of the circulation would moreover be encouraged, not merely by the slow action of the heart, but by the inertia of the whole circulating mass being required to be overcome at each successive impulse of the heart; for by the great length of the interval between each contraction of the heart, the impetus the blood had gained would be almost lost. If the circulation had approached at all near its ordinary rapidity, this argument would really be quite insignificant; but when we find the heart contracting only two-and-twenty times in a minute, and even less than this, the interval is so appreciable, that the motion which the blood received must be almost lost, especially when we admit the several obstructing causes; and instead of its muscular force being expended in accelerating a motion already existing, a large amount of it must be spent in producing this motion.

With the evidence which is now before us, may we not proceed to offer an explanation of those very singular fits? Now what were the features by which they were recognized? If slight, merely a pallor of countenance, without loss of sensation, volition, &c., quickly followed by a slight transient blush, and all was again natural. But upon examining the heart at the time at which you first discovered this pallor, you would find it had ceased to act; but the moment it again acted, the pallor would immediately subside, and give place to a blush. If the fit were more complete, the pallor would continue, a ghastly expression of countenance would appear, the eyes would be upverted, convulsive twitchings would take place, total loss of sensation, volition, &c. &c. Upon the heart again acting, a sudden blush took place, extending to almost every part of the surface, especially the head, face, and neck; sensibility then quickly returned, and all was as before. Now these symptoms manifested themselves just in proportion to the suspension of the heart's action, and were prolonged and regulated by the duration of that suspension. But although the heart ceased to act for so long a period, or, if it acted, acted but feebly, this feature was always observable on the subsidence of the fits—that the heart acted steadily for about five beats at the rate of 60 in the minute, and then returned to its ordinary slow state. Now we have seen an obstructing cause existed to the flow of blood through the aorta; that this obstruction was increased by an ossified state of the branches of the left internal iliac; that it was increased by the diseased condition of the aorta; that the inertia of the circulating fluid favoured this obstruction; and moreover, that the dilated state of the aorta, when once established, would aid rather than relieve this obstruction, inasmuch as in proportion to the amount of dilatation would the natural elasticity of the artery be overcome. Such being the condition of parts, does it not most satisfactorily explain the occurrence of the symptoms already detailed? The artery, from obstruction and deprivation of its proper powers, was unable to send forth the blood propelled into it at each impulse of the heart; the consequence of this would be, an almost temporary arrest to the circulation through it; or if not amounting to an actual arrest, the circulation would be so slow as to present a physical obstacle to the further entry of blood; and as such the heart could not act. This was precisely the condition which did exist; the heart did not act, and for it to have attempted to act would have been useless, until the vessel was in some measure relieved of its contents. When, however, this object had been gained, and the urgent necessity of its action to life demanded its action, it again acted; and now we see, not the sluggish action which was observed at other times, but an ordinarily rapid one for a few beats, until it was again, as it were, warned by the distended state of the aorta that its efforts would be useless, and the same sluggish action was again produced. In this case can we not observe how beauti-

fully those organs immediately concerned in the production of these phenomena have adapted themselves to the new circumstances under which they have been required to act. When the obstruction existed, the blood must necessarily have been thrown back upon the heart. To provide against this evil, we find the artery dilating, in order to accommodate a larger amount of blood. When this was effected, the heart, instead of acting with its accustomed frequency, became slow in its action, the pulse being but 22 in the minute, and afterwards 16. We find, moreover, the collateral vessels dilating, for, as stated in the report, the hepatic veins were unusually large, and the arteries encircling the intestines were most clearly seen. Another organ must yet be noticed, to complete the chain of obstructing causes; I allude to the condition of the liver. From the structural change which nearly the whole of it had undergone, it is but fair to infer that the large amount of blood sent to it by the venæ portæ, would not find so ready an escape as under a healthy condition of this organ. How long such a condition has existed is difficult to say, but I think it is most probable, from the sedentary habits the patient has led for the last few years, it has gradually been growing upon him, and was increasing. That this undoubtedly would form a further obstacle, inasmuch as the quantity of blood the mesenteric arteries, both large vessels, could have carried away, and thus have relieved the obstructions elsewhere existing, has been greatly lessened.

The causes which have been adduced might perhaps be thought insufficient to explain the very serious and at last fatal character which marked these fits; for when we remember arteries, and important arteries, are continually being tied, and even the aorta itself, without producing similar effects to those detailed, it should justly render us somewhat scrupulous in attaching so much importance to these causes, which, theoretically considered, would have much weight. But in taking a review of this case, and in contemplating the morbid states of the several organs, we find that the evidence in favour of our view has increased and accumulated; and although it would be highly unphilosophical, and most unsought for, to endeavour to attach a greater significance to any one of the facts than it really deserves, yet, at the same time, it is but just to allow to each that amount of worth which it absolutely possesses, and also to consider the relative bearing one fact has upon another: for although any one taken singly might be justly considered as insignificant and unimportant, yet, when placed together, and estimated not only in their absolute strength but accumulated force, they have a higher claim upon our attention than at a *primâ facie* view they appeared to possess; like the scattered fragments of a noble edifice, each possessing but little beauty, and having no claim upon our notice; yet, when skilfully arranged, constitute a magnificent fabric, not only commanding our attention, but well meriting our praise. We see, then, obstruction existing, not merely at one part, but at many; we trace it in the aorta, its branches, and the vessels leading from these, until a circle of obstructing causes is almost formed. We see, moreover, at the time of death the heart is loaded, the aorta and its branches are unusually filled, and the returning veins in a highly engorged condition. Another fact would also, I think, favour the view which I have taken of this case, that the fits occurred more frequently on occasions of particular excitement, by which the heart would be stimulated to act, the aorta would be unduly filled, and by thus causing a suspension to its action a fit would be produced. It is also worthy of remark, that until the last few years, when the fits assumed a determined character, he was troubled with what he termed a swimming in his head: now was not this produced by a short interruption of the heart's action, insufficient to destroy sensation, volition, &c. but sufficient to interrupt the circulation in the brain?

A reasonable inquiry might here be made, why it was the cessation of the heart's action was so prolonged? for although the aorta might be so filled as to warn the heart against any futile attempt to pour forth a fresh quantity of blood, yet the blood must be flowing, and the engorgement of the vessel would be quickly relieved, or sufficiently so to have allowed the heart to act, before, in many instances, it made any attempt. The following explanation appears to me satisfactory:—The heart, although it possesses an irritability in

itself, by which it can act independent of any other organ or system, yet it is found to be greatly under the influence of the brain and nervous system. When the heart was compelled by necessity to withhold its efforts, and the necessary suspension was too long to be compatible with the performance of the functions of the brain, a state equivalent to fainting was produced; under such condition, the heart would not receive that supply of nervous energy necessary to its proper function, and the interval was therefore prolonged. Although a state equivalent to fainting was produced, yet the phenomena accompanying that state were very different to those attendant upon ordinary fainting. In fainting, the heart generally becomes gradually feeble in its action; in the present case there was sudden cessation of its action: in fainting, the respiration generally keeps pace with the feeble circulation, being sometimes scarcely perceptible, and accompanied with an occasional sigh. In the present case there was no correspondence between the respiration and circulation, for although the heart had ceased to act, the respiration was continued, and with increased quickness and labour. In fainting, the establishment of the circulation is gradual and progressive, but in the present case it was as sudden as it was interrupted. The condition of the lungs fully corroborates this account; for of all the parts which constitute the grand mechanism of the human body, none which underwent inspection was found free of an engorged condition but the lungs; and these, as I have stated in the report, were as perfect a specimen of healthy structure as could possibly have been selected.

But we cannot conclude without contemplating still further the adapting powers of nature to the various trying and perplexing circumstances which attend her operations. To suppose for a moment, in the present case, she had taken an opposite course to the one she has adopted—that instead of the slow action of the heart adapted to the escape of blood from the vessel, and the occasional interruption to this action to allow of an escape under an unnatural and over-distended state—the action of the heart had been rapid and vigorous, and without any cessation, quickening the motion of the blood, urging its escape through canals whose calibres were lessened, whose coats were unyielding, and whose strength was unequal to support the rapid and vigorous strokes of so powerful an organ; such a condition might have been supported for a brief space of time, but it must quickly have terminated. The evil under the present condition was great, but it existed for several years, and life was prolonged to the not youthful term of 70. The evil under the opposite condition would have been greater, and the almost inevitable result must have been laceration of some important artery, bringing his existence to a rapid and fatal end.

This, then, is the view which I have ventured to offer upon this interesting case. The pathological condition neither suggests nor warrants, I conceive, any other; but it would afford me no small gratification if the phenomena which characterized this case could be explained in accordance with the morbid condition of the several organs by any other view. A point of physiological interest may yet, perhaps, not unfairly be deduced from it. It has long been a question among physiologists, whether the capillaries have the power of circulating the blood independent of the heart's action? and this question is, I believe, not yet determined. Now, in the long suspension of the heart's action in this case, did the blood circulate only by the impulse it received from the heart, or was it carried on by any power on the part of the capillary vessels?

MEDICAL EDUCATION.

To the Editor of the Medical Gazette.

Sir,

One part of your excellent editorial remarks on the best mode of conducting medical studies, contained in the Gazette of last Saturday, seems to have been written under an erroneous impression; and I therefore take the liberty of calling your attention to the subject, in the hope that, at your earliest convenience, you will notice it again.

In speaking of the choice given to students by the Apothecaries' Society of attending botanical lectures *either* during the *first* or *second* summer of their studies, you recommend them to do so

in the *first*, "because in the *second summer* they will be occupied by *midwifery, with the diseases of women and children*, forensic medicine, and the medical practice of an hospital." Again, you say "the practice of midwifery, which the student will attend during his *second summer* and *third* winter session, is in one respect better taught," &c. &c. The manner in which these remarks are put will necessarily lead your readers to believe that the Apothecaries' Society require the obstetric class to be attended during the periods which you mention. Such, however, is not the case, as you will find by referring to their regulations published last month. It is there stated that two courses of midwifery must be attended in separate sessions, subsequently to the termination of the first summer session; and consequently it is left to the student's discretion whether he shall attend this branch during the two last winters, or during either of them and the intervening summer.

Now, sir, with this choice before him, it appears to me that it will be much for the student's advantage to attend the required courses of theoretical instruction during the *two last winters*, and devote the intervening summer, as far as midwifery is concerned, to gaining practical information, by taking charge of cases of labour. The following are among my reasons for this opinion:—

Every body will acknowledge that a student should not be entrusted with the care of obstetric cases until he has attended at least the whole of one course of instruction. By deferring his attendance, then, till the second summer, he has only the last winter session left in which to apply himself to this indispensable part of his duties. In this session more is required of him than in any of the former, and his time is consequently more taken up. Besides, he must devote as many hours as he can spare from the class-rooms and hospital wards, to preparing himself for the examinations he will have to undergo in the ensuing spring. It is reasonable, therefore, to suppose that he will neglect the opportunities offered him of making himself practically acquainted with the obstetric science, or will only attend a sufficient number of cases to entitle him to a certificate. From fifteen years' experience in teaching, I know how difficult it is to persuade pupils to take charge of midwifery patients during the last winter of their pupilage; and how frequently — nay, almost universally, the time occupied in reading up for their approaching examinations is brought forward as an excuse for this neglect.

Students will also find it both more pleasant, as well as more convenient, to devote as much time as they can spare to practical midwifery, in the summer, for then the nights are short, the weather generally fair, and the annoyance of attending cases by no means so great. It is certainly desirable that they should give up some portion of the last winter to this duty; but it is even more desirable that they should qualify themselves for it before the commencement of the second summer.

Another objection to their attending midwifery lectures in the second summer is, that their time is as much, if not more, occupied during that session than in the second winter, although such does not appear the case at first sight. They will have forensic medicine to attend, and many of them botany, unless they have attended this class at a provincial school; because, in fact, as the Apothecaries' Society do not positively require any certificates of attendance for the first summer, few will remain here during it. They will have to attend the medical practice of an hospital, most of them will be attending the surgical practice at the same time, and they will be twice a week drawn away to Chelsea, which breaks up the whole day. Now as the session only comprises three months, (half the term of the winter session,) and as the course of midwifery lectures is required to consist of sixty, it is evident (when we consider the many interruptions that must occur in this particular department) that a lecture must be given at least five times a week; and even this arrangement would only leave six extra days for casualties. The probability is, that however well the teacher may have laid his plans, on one day in the week he will find himself addressing empty benches, his pupils being at the Botanical Gardens. It may, indeed, be answered, that the Gardens shut at noon, and there is plenty of time for the students to return; not so if the lecturer has chosen an early hour in the morning; and in truth I have found that, on these days, little is at-

tended to by the students after their Chelsea jaunt.

My recommendation to a young man entering the profession would be, to attend as much in the dissecting-room and class-rooms as he possibly can during the winter, and as much to the practical department of his profession during the summer; for I am certain that one feels much less inclination to be confined to the close air of a lecture theatre in the fine sunny days of summer, than in the close disagreeable winter weather; and that with the best resolutions the most attentive person is often inclined, on such days, to play the truant. It was so with me when I was a student; it has been so with my summer classes always; the feeling is inseparable from the buoyant disposition of youth; and if we preach till doomsday we shall not correct it.

I am sir,
Your very obedient servant,
FRANCIS H. RAMSBOTHAM.

14, New Broad Street,
October 17th, 1838.

EXOSTOSIS OF SCAPULA.

To the Editor of the Medical Gazette.

SIR,

I BEG to transmit to you the following case of exostosis from the anterior surface of the scapula, which, from its extremely rare occurrence, you may perhaps think worth placing upon record in your journal. So far as I am aware the case is unique. Several of our most experienced hospital surgeons have told me that they have never had occasion to operate for a similar affection so seated.

John Reid, æt. 13, residing at No. 5, Warren Street, Tottenham Court Road, was brought to me the latter end of June, 1838, on account of a very considerable projection of the inferior angle of the right scapula, attended with pain after exertion, loss of power, and diminished freedom of motion in the right upper extremity. I found the inferior angle of the scapula thrown out from the ribs nearly two inches above its level, which was caused by a tumor, the size of a large walnut, growing from that surface of the scapula next the ribs, near its inferior angle, and projecting beyond the inferior costa, and nearly as far as the base of this bone; so that two sides of the tumor could be felt, but the rest being covered by the scapula, one could only judge that it was an exostosis from the hardness of the projecting portion, and from its unyielding attachment with the scapula. The tumor had latterly increased in size, and from its position between the scapula and ribs, so compressed and rubbed upon the soft parts lying on the latter, that the patient began to be incapable of following his occupation, in which he was frequently obliged to lift and carry parcels of considerable weight.

On Thursday, July 5th, 1838, I operated in the following manner. After reflecting a triangular flap of integument covering the infra-spinatus, I dissected the border of the latissimus dorsi from off the inferior angle of the scapula, so as to get the bone from under this muscle. The humerus being then raised to the patient's head so as to throw out from the thorax the inferior costa of the scapula, I detached from it the teres major. I then divided close to the base of the scapula the greater part of the insertion of the rhomboideus major, and with it the corresponding portion of the serratus magnus. I now passed my finger beneath the scapula, to feel the extent of the tumor, which had made its way between the fibres of the subscapularis, and having cut across the infra-spinatus down to the dorsum of the scapula, I divided with a pair of Liston's small-bone forceps the inferior costa of the scapula, and with it part of the subscapularis, about midway between the inferior angle and the insertion of the long head of the triceps. I then with the forceps cut through the base of the scapula towards the first division of the bone, and by bending the tumor backwards, broke the intervening part of the dorsum, and the tumor being held only by a small portion of the subscapularis, was immediately detached by a stroke of the scalpel. There was not much hæmorrhage; I tied but three arteries, and fastened with one stitch the cut fibres of the teres major to those of the infra-spinatus, and in like manner to the same muscle I fastened the detached portions of the rhomboideus major and serratus magnus. I secured the cut edges of the integuments in contact by five stitches, and a few strips of adhesive plaster, without any other

dressing. On the following day (Friday) the patient's pulse had risen to 112, but otherwise there was very little constitutional disturbance. He had taken an opiate immediately after the operation, and I now ordered him some calomel and jalap, and as he complained of heat in the wound, I directed that linen dipped in cold water should be constantly applied to it, at least until he should begin to feel chilled.

On the next day (Saturday) I found the patient almost free from pain, and without the least constitutional disturbance, his pulse having fallen to 84. He continued doing well; there seemed to be no suppuration except in the course of the ligatures; and eight days after the operation he walked from his home to my residence, a distance of about a quarter of a mile, at which time the wound was firmly healed, save where it had gaped between the stitches, which parts had only to cicatrize. On the 30th of July (three weeks and a half after the operation) I saw the patient: he was quite well, the wound being firmly cicatrized in its whole line, but his right upper extremity much weakened. Between nine and ten weeks after the operation I again saw him. He was free from pain, and his right arm had become as strong as the other, and possessed the same extent and freedom of motion; so far, that for two weeks past he had resumed his former occupation.

Form and Dimensions of a Section of the Exostosis.

a, the dorsal aspect of the inferior angle of the scapula.

b, a continuation of the cancellous structure of the scapula into the exostosis.

c c, a firmer osseous structure without cancelli.

d d d, a thick layer of cartilage, which covered the whole of the exostosis, and which was as hard and compact as articular cartilage.

I have the honour to be, sir,
Your obedient servant,
WM. BEAUMONT.

47, Berners Street, Oct. 17, 1838.

DELIRIUM TREMENS.

To the Editor of the Medical Gazette.

SIR,

SHOULD you consider the following case worthy of insertion in your valuable journal, you will greatly oblige,
Your obedient servant,
WILLIAM GARLIKE.

42, Theobald's Road.

Delirium Tremens treated with Tartar Emetic and Opium.

I was desired at six o'clock on the evening of the 25th of September, 1838, to see Mrs. ——, æt. 38, who had early on the same morning lost her father, upon whom she had been in continual attendance for the last three weeks, and in consequence had received but little rest. The following symptoms presented themselves. Walking about the room in great nervous excitement, and requiring strong force to prevent her leaving it, incoherent talking, convulsive sobbing, fixed stare of the eyes, conjunctiva injected, pupils natural, pulse small and weak, skin hot, and great thirst, coupled with complete wakefulness.

℞ Tr. Opii 3j.; Tr. Lavand. Comp 3j.; Spt. Ammon. Aromat. 3j.; Mist. Camphoræ 3v. M. ft. Haust. statim sumend. I ordered her to be put to bed.

8 o'clock same evening.—Has been to bed.

℞ Tr. Opii 3iv. Spt. Ammon. Aromat. 3ij.; Aquæ 3v. M. ft. Mistur. Cap. Coch. Magn.; omni hora. Cold applications to the head.

12 o'clock.—No improvement; distressing sickness; every thing ejected as soon as taken; mistakes every one

for her father, and fancies him still alive. Previous to this last visit I consulted with my friend Mr. Larkins, who advised the following to be given.

℞ Tr. Opii. ʒij.; Antim. Pot. Tart. gr. j.; Mistur. Camphoræ, ʒvss.; M. ft. Mist. Cap. Coch. Magnum, omni hora. Continue cold applications to the head.

26th, 9 A.M.—Violent headache, sickness, vomiting, and other symptoms, continue unabated. One dose of the last medicine had only been given, from the attendants fearing it had kept up the sickness. I ordered it to be given regularly every hour.

12 A.M.—Has taken the medicine regularly; sickness very much abated; remained quiet for about ten minutes.

27th, 4 P.M.—Slept soundly from three o'clock yesterday afternoon till to-day, when she was awoke by noises in the adjoining apartment, but had not again slept. The medicine had been given every hour from the time she awoke; had taken some porter; talks much more rationally, yet thinks her father alive; *no sickness*, pulse soft and natural, bowels confined.

Continue cold applications to the head, and mixture. Allowed beef tea.

28th.—Slept all the night; quite composed; talks rationally on all subjects save her father, under which delusion she still continues. Bowels being confined, ordered some aperient medicine; mixture continued, but in smaller doses.

29th.—Rather restless, with headache; has not mentioned her father. Cold to the head, and the following draught every six hours:—

℞ Morphiæ Hydrochlor. gr. ¼; Tr. Lavand. Co. ʒj.; Aquæ ʒxj. M. ft. haust.

30th.—Slept all night, and continued quiet till one o'clock, when her father's body was removed, the noise of which disturbed her. Ordered no medicine. Wine allowed.

8 P.M., same day.—About an hour previous to this visit she was lying rather more composed, whem she suddenly started up, with the exclamation, "I remember all!" from which time she has continued perfectly conscious of her father's death.

Oct. 1st.—Much better; great prostration of strength; tongue furred and moist; pulse hardly perceptible.

℞ Quinæ Disulph. gr. j.; Sr. Aurantii, ʒss.; Aquæ ʒj. M. ft. haust. sumend. ter die.

2nd.—Much better. Continue medicine.

4th.—Convalescent.

OBSERVATIONS.—In presenting this case to the notice of the profession, my object has been to point out a remedy, or rather a conjunction of remedies, which are not generally used in this affection. I of course allude to the tartar emetic and opium, a plan for which we are solely, I believe, indebted to that experienced physician, Dr. Graves, of Dublin, who has strongly inculcated this practice. It may be objected by many, that had the opium been continued alone it might have produced, or perhaps did produce, the beneficial effects I am inclined to attribute to both; but it is fair to argue, that if the opium had (from the necessarily large quantities given) had the desired effect, it must have shown itself earlier; for it must be borne in mind, that no less than five drachms of laudanum had been given to a person totally unaccustomed to stimuli, in the short space of six hours, while no improvement actually took place till the tartar emetic and opium had been regularly administered. It is also worthy of remark, that when the patient was getting under the influence of the above remedy, the sickness was much relieved.

VACCINATION.

To the Editor of the Medical Gazette.

SIR,

THE interest excited by the papers which have lately appeared in the MEDICAL GAZETTE, on the subject of Vaccination, induces me to think that you may not deem the following communication unworthy of insertion:—

Within the last three years I have twice tried reputed vaccine matter taken directly from the cow. The first was sent by a surgeon at Cricklade, to a physician practising in this town. The second was taken by a surgeon here, with his own hand. They both failed, and the failure must be attributed to some imperfection of the lymph, since, in both instances, several other practitioners used matter from the same source, unsuccessfully.

About the middle of last month I received from a retired surgeon residing here, three points (which were sent him by a most respectable practitioner at Berkeley) charged with lymph two removes from the cow, and taken from a very healthy child. Lest I should expend my whole stock on an unpropitious subject, I selected three healthy children, and appropriated a point to each. No. 1 did not take at all. I saw No. 2 at dusk on the evening of the eighth day, when there was but one small imperfect vesicle, which I pronounced to be unsatisfactory, and said I would re-vaccinate the child in a few days. I went on the fourteenth day, and found the pustule advanced to the stage which it usually attains on the tenth, and which would at that time be deemed satisfactory. The mother was satisfied with it, and would not permit re-vaccination. I vaccinated No. 3, Mary Jones, æt. 10 weeks, on September 19th, who had three small vesicles on the eighth day, not more mature than is ordinarily seen on the seventh, and containing very little lymph. From one vesicle I vaccinated Fanny Molesworth; and being promised by the mother to come on the morrow (who, however, failed to do so), I took no lymph on glasses or points. Fanny Molesworth, æt. 10 weeks, was vaccinated Sept. 26; had two fine vesicles on Oct. 4, from one of which I vaccinated —— Scott, æt. 8 months, and Josiah Lewis, æt. 7 weeks. The latter did not take; the former had three fine vesicles, from one of which I was permitted to charge two glasses. From one glass I vaccinated, Oct. 15, Theophilus Cook, æt. 3 months, and found three fine vesicles this morning, two of which furnished sufficient matter for five glasses. From the other, —— Browne, æt. 14 weeks, was vaccinated Oct. 13; two fine vesicles were the result, from one of which I charged three glasses on the 21st, and used one this morning, so that I can now afford to supply my neighbours who may wish to try this recent stock. On October 15th I was sent for to see Fanny Molesworth, on account of the bad appearance of the pocks. On the 16th they got worse, presenting "deep circular cavities" (see Mr. Estlin's second letter), and I was politely requested (*if it would at all relieve my mind*) to call in a physician, which I chose to decline. They are now well.

The vesicles have in general been more retarded than usual, and hardly so fine as those which I ordinarily observed during the last spring; and I have heard several surrounding practitioners assert that the matter kindly furnished by Dr. Gregory to the Provincial Medical and Surgical Association, produced no finer vesicles than those which they have long been in the habit of seeing. I wish that some one with more extensive opportunities than I have would note the varieties as to time, course, size, and perfection, of the vesicles, induced by the quantity of matter introduced, the mode of introduction, and the state of the weather.

I am, sir,
Your obedient servant,
HENRY COLES.

Cheltenham, Oct. 23rd, 1838.

MEDICAL GAZETTE.

Saturday, October 27, 1838.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

THE MANAGEMENT OF MADHOUSES.

IN our last article on this subject (Oct. 6) we ventured to hope that matters were not quite so ill managed as Dr. Crowther represents them to be even in asylums enjoying a good repute; yet if we believe the evidence lately adduced at a coroner's inquest in Hampshire *, it would seem that Dr. Crowther's censure errs on the side of mildness, and that madhouses have returned to the state depicted in the Parliamentary Reports of 1815. The inquest, which lasted five days, was held upon the body of Mary Ann Strong, a pauper lunatic confined in Mrs. Middleton's asylum at Grove Place, about four miles from Southampton. The deceased had been removed from the asylum, and died six days afterwards, in consequence, as was sup-

* Times of October 15th. From the Hampshire Independent.

posed, of the treatment which she had received there.

Mary Ann Sturdy, the first witness, deposed that on Friday, the 28th of September, the deceased was brought home in a violent state, with bruises on the face, neck, and back—"from the poll of her neck to nearly the bottom of her back was quite black." On the Saturday evening she was secured with a rope, and on Sunday with a strait waistcoat, but had no medical attendance while the witness was with her.

Frances Sturdy deposed to having seen the deceased on the 29th of September, when she was sent for to attend her; she remained with the deceased till her death. Mrs. Strong said to the witness, when she washed her on the 30th, "I hope you are not going to wash me with a birch-broom, and throw a pail of water over me."

Mr. E. Shakell, brother of the deceased, stated that he had applied to the Board of Guardians on the 20th of September, to have his sister removed from Grove Place, where she had been about three months. He did this on account of information which he had received as to her treatment there. Some preliminaries had to be settled, and he saw the Board of Guardians again on the 27th, when the final arrangements were made.

Mrs. Willis, who had been confined in the asylum at the same time as Mrs. Strong, deposed to the treatment to which the latter was subjected. She had seen her standing in the middle of the yard entirely naked, and washed by a nurse named Caroline Sellens; the water being thrown upon her from a bucket. "She was driven down stairs from her bed-room into the yard, quite naked, where cold water was thrown over her, and afterwards she was driven into the straw-house in that state; it was Caroline Sellens who drove her and struck her several times: she repeated the blows all the way down stairs, and again repeated them in the yard; she was quite naked all the time, and the blows were chiefly upon her back; this particular beating occurred about two months before I left the asylum, as nearly as I can recollect; I have seen Mrs. Strong beaten after the time I have been describing; it was continued almost daily until the time that I left."

Some discussion took place between two of the attornies attending the inquest, on the admissibility of this witness's evidence, as she was insane in presumption of law at the period when these events happened. To this it was answered, that in lucid intervals lunatics were held to be legally competent and responsible agents. The witness, in fact, was actually entrusted with the keys of the outer gate for some months, and seems, therefore, to have had more than lucid intervals. Among her ordinary duties she had to dress a young woman named Emma Francis, who was very violent. The witness, who had left the room, was now recalled, her evidence being admitted under protest, and she immediately recollected the last words she had uttered, which, as Hamlet says, "madness would gambol from." Several of the jury, indeed, expressed their opinion that she was as competent to give evidence as any person in the room; but it remains to be seen, if the case should be carried into another court, whether it can be legally proved that she was in a lucid interval when entrusted with the keys. This doubt applies to another important witness, Mrs. Fanny Smith, who likewise saw the treatment inflicted on the deceased; these being, indeed, the only witnesses who did see it. Mrs. Strong having been visited by Mrs. Shakell, her sister-in-law, had revealed some of the secrets of her prison-house (as appears from the evidence of the latter), on which, says Mrs. F. Smith, "Sellens told Mrs. Strong that she should be stripped stark

naked, and sent to bed without supper, for telling 'they lies to Mrs. Shakell:' that evening witness saw her stripped naked, and sent up without supper. Witness saw that, and heard the screeches after she was up stairs."

This witness frequently saw the deceased beaten with a stick, but did not dare to mention it; "if she had, she should have been served so herself."

The next witness was Dr. Henry Clark, surgeon to the guardians of the poor, who confessed that neither a lunatic, nor a person in a lucid interval, ought to have charge of the keys of the outer gates of a lunatic asylum; that a patient in delicate health ought not to be exposed, undressed, in the open air for a quarter of an hour, with a bucket of water thrown over her, &c.; in short, he made a number of admissions very unfavourable to Grove Place, if the previous evidence be true.

Mr. C. Fowler, a surgeon, gave an account of the post-mortem appearances. The back, thighs, and legs, had numerous discolorations caused by external violence; "the darker coloured appearances on the back he believed to arise from the gravitation of the blood after death, and consequent upon death; did not attribute the whole of the discoloration of that part of the body to the same cause." There was some opacity in the superior longitudinal sinus, and more fluid than usual in the lateral ventricle. The right ventricle of the heart was dilated, and its walls very thin; there was a strong adhesion between the pleura pulmonalis and costalis. The intestines were greatly distended, particularly the larger ones. Mr. Fowler was of opinion that the death of Mrs. Strong depended on these appearances, though in another person they might have been compatible with life. This opinion, though at first sight paradoxical, is by no means indefensible; thus, for example, an organic disease of the heart may extinguish life in one patient, while another lives on though oppressed by a higher degree of the same malady.

Soon afterwards we have the evidence of a witness said to be *recalled*, but not mentioned before, by name Frances Ryder. This is apparently the person before called Frances Sturdy. She mentioned her having administered jalap and salts to the deceased without effect, after her removal from Grove Place, and said that she did not think there was any occasion to call in medical assistance.

Mr. Thomas Simpson, the surgeon of Grove Place Asylum, deposed to Mary Ann Strong having been admitted on the 11th of June. He examined her person within an hour or two of her admission, and found marks of violence on her back, extending from the lower part to nearly as high as between the shoulders. He also bore witness to the violence with which the deceased struggled out of her strait waistcoat, threw herself on the floor, and shifted one of the straps of the leather sleeve which she afterwards wore, so as to injure her neck. He never saw any violence used towards Mrs. Strong, either by beating her with a stick, or otherwise; and neither she, nor any one for her, ever complained to him of ill usage. Hence his evidence went to show, not only that Mrs. Strong came into the asylum covered with bruises, but that from her violence while residing there, these bruises were renewed. The certificate for her admission was signed on the 5th of May, but she was not admitted till the 11th of June. This seems strange. Concerning the two principal witnesses, he was of opinion that Mrs. Willis was insane during her residence in the asylum, and had not perfectly recovered when she left it on the 4th or 5th of August; and that Mrs. Smith was

insane, but was rather better on the 28th of September, when she left the asylum, than when she was there.

The coroner, previously to delivering his charge to the jury, read them a letter which he had just received from Mrs. Middleton, addressed to himself and the jury, stating that she had discharged Mrs. Rose and Caroline Sellens from the asylum; though from the inquiries she had made, she believed them to be innocent of the charges brought against them. The verdict of the jury was, "The jury are of opinion, that the death of the said Mary Ann Strong was occasioned by natural causes, accelerated by the ill treatment she experienced from the two nurses, Mrs. Rose and Caroline Sellens, during her confinement in Grove Place Lunatic Asylum."

We can scarcely venture to offer a positive opinion on this perplexing case, and would hardly wish to do so, as it may probably be again mooted in a criminal court. Were the chief witnesses, Willis and Smith, really, or nominally, insane during the latter part of their residence at Grove Place? If the former, and we admit their evidence, the nurses were injured persons; if the latter, and we reject it, guilt will escape its due punishment. The truth is, that the difficulty of admitting the evidence of the insane against their keepers, is like that of admitting the evidence of blacks against whites in slave colonies. If the evidence is freely admitted, no white is safe; if entirely rejected, no black. And just as a man, in spite of his ebony skin, may be an honest witness, so a person confined in an asylum may, in spite of some eccentricities, be a calm and competent observer of all that is going on around him. As for the surgeon of such an establishment, his negative evidence, his not seeing, cannot go for much—the masters of a public school do not see the tyranny practised by the big boys upon the fags. Even if the task of superintendence were more easy, it would be in vain, we fear, to expect much from our modern guardians of the poor; we should rather be tempted to ask,

Quis custodiet ipsos
Custodes?

One of the most remarkable points in the whole evidence is, the constant absence of Mrs. Middleton, the proprietress of the asylum. Mrs. Willis never saw her at all.

What will Dr. Crowther say to all this, and what remedy will he propose? The same, we suspect, which would occur to every man of common sense and honesty. Let a public asylum be built in each county that does not possess one, so that indigent lunatics may be saved from the horrors of mismanaged private establishments.

We return, after this digression, to the consideration of Dr. Crowther's strictures and proposals. There is no office in the profession so difficult to fill, he says, as that of physician to a lunatic asylum, and no wonder, if it demands half the qualifications which he sets forth. There are three classes of physicians, he tells us. The first, who are divided into several subgenera, are your routine physicians. The second kind consist of scientific physicians, without practical tact, who talk learnedly and elegantly on every subject connected with medicine, but are nonplussed if they have to treat a complicated case. The third kind consist of physicians who combine every qualification, and who are admirably adapted for a lunatic asylum; or, we should imagine, for anything else. There is a pleasant story of a lady, who, being in want of a governess, wrote to her brother, describing the varied perfections she required, and requesting him to look out for her. He replied that he had long been in search of such

a person, but if he ever should be so fortunate as to find one, he intended to make her, not his sister's governess, but his own wife. Now, if such a physician is to be found as Dr. Crowther requires, (and at a moderate salary too), for a lunatic asylum, we should recommend him straightway to repair to London, where we would guarantee him a practice of at least ten thousand a year. Enough—said the Prince to Imlac—you have convinced me that no man can ever be a poet; enough, Dr. Crowther, you have convinced us that no man can ever be physician to a lunatic asylum. Nevertheless, the attempt to obtain perfection is a laudable one, and may assist in procuring the services of an officer, who, though many degrees below the Crowtherian standard, might still be a man of great merit.

LONDON UNIVERSITY.

We subjoin, for the edification of the public, the regulations which it is proposed to adopt at the London University, in reference to granting degrees in medicine. None but mere theorists would have indited such a document; and as we understand that they invite "remarks," we shall take the liberty of making a few next week.

REPORT OF THE COMMITTEE OF THE FACULTY OF MEDICINE ON THE *Subject of granting Degrees in Medicine.*

Candidates for Degrees in Medicine shall be required to have taken a Degree in Arts in this University, or in a University the Degrees granted by which are recognised by the Senate of this University: or, they shall be required to have passed the 'Examination in Arts' for Medical Students, conducted by the Examiners in Arts of this University.

EXAMINATION IN ARTS.

The examination in Arts shall take place twice a year, in the months of May and October.

Every candidate, at least fourteen days before being admitted to this examination, shall transmit to the registrar a certificate showing that he has completed his seventeenth year.

A fee of 5*l.* shall be paid before examination. If the candidate fail to pass the examination, the fee shall be returned to him.

The examination shall be conducted by means of printed papers; but the examiners shall not be precluded from putting *vivâ voce* questions on the written answers, when these appear to require explanation.

Candidates for this examination shall be examined in the following subjects:—

The Greek and Latin languages.—One Greek and one Latin subject, of a specified extent, to be selected one year previously by the Committee of the Faculty of Arts from the works of the under-mentioned authors:—*Homer*, one book; *Xenophon*, one book; *Virgil*, one book of the Georgics, or the sixth book of the Æneid; *Horace*, one book of the Odes; *Sallust*, The Conspiracy of Cataline, or the War with Jugurtha; *Cæsar*, The Civil War, or the fifth and sixth books of the Gallic War; *Livy*, one book; *Cicero*, the treatises De Senectute and De Amicitiâ, or two of the shorter or one of the longer orations.

The grammatical structure of the English language.

The French language or the German language.

History and geography.—History of Greece to the death of Alexander; History of Rome to the death of Augustus; History of England to the end of the seventeenth century; the outlines of ancient and modern geography.

The papers in classics shall consist of passages to be translated, accompanied by questions in grammar, history, and geography.

Proficiency in English composition will be judged of by the style of the answers generally.

Arithmetic and Algebra.—The ordinary rules of arithmetic; vulgar and decimal fractions; extraction of the square root; addition, subtraction, multiplication, and division of algebraical quantities; proportion; arithmetical and geometrical progression; simple and compound interest; discount, and annuities for terms of years; simple and quadratic equations; use of logarithms.

Geometry.—The first book of Euclid; mensuration of surfaces and solids of the simpler forms.

Mechanics.—Composition and resolution of forces; the mechanical powers; centre of gravity; general laws of motion; motion of falling bodies in free space and down inclined planes.

Hydrostatics, hydraulics, and pneumatics.—The pressure of fluids is equally diffused, and varies with the depth; the surface of a fluid at rest is horizontal; specific gravity; a floating body displaces exactly its weight of the fluid, and is supported as if by a force equal to that weight pressing

upwards where the centre of gravity of the displaced fluid if restored would be; weight and pressure of the atmosphere; the barometer; theory of winds; the siphon; common pump and forcing pump; the air pump; the diving-bell; the steam-engine.

Acoustics.—Impulses propagated through the air, or other medium, to the ear, produce the sensation of sound; similar impulses following quickly at equal intervals, are heard as a continuous sound, of which the pitch depends on the number of impulses in a given time; such impulses reflected from surfaces constitute echoes.

Heat.—The general phenomena of radiation and conduction, of the expansion of bodies, and of the changes from one to another of the solid, liquid, and aëriform states; the thermometer; temperature of the atmosphere; hygrometrical condition of the atmosphere; theory of dew.

Electricity and magnetism.—The general facts.

Optics.—The laws of reflection and refraction; lenses; the camera obscura; the telescope; the microscope; the eye considered as an optical instrument.

Astronomy.—The apparent motion of the heavens round the earth; the apparent motion of the sun through the fixed stars; the phenomena of eclipses; general arrangement of the solar system.

Elements of logic.

Elements of moral philhsophy.

No candidate shall be approved by the examiners unless he show a competent knowledge in all the subjects of examination.

Candidates who have matriculated in Arts will be exempted from examination in Greek and Latin, in history, geography, and mathematics, and shall pay a fee of only 3*l*.

Degree of Bachelor of Medicine.

Candidates for this degree shall be required to produce certificates, showing that, subsequently to having taken the degree of Bachelor of Arts, or to having passed the examination in arts for medical students, they have been engaged during four years in the study of medicine, and have attended courses of instruction on the following subjects, and of the extent here specified, at one or more medical institutions or schools recognized by this University:—

Minimum number of lectures—Botany, 40; materia medica and pharmacy, 80; chemistry, 80; descriptive anatomy, 100; comparative anatomy, 40; physiology and general anatomy, 100; general pathology and pathological anatomy, 60; general therapeutics, 40; principles and practice of medicine, 80; principles and practice of surgery, 80; midwifery and diseases of women and infants, 50; medical jurisprudence, 40; hygiene, 40; practical chemistry, 30 lessons; practical anatomy, two winter sessions; clinical medicine and surgery, in an hospital, during the last three years of the medical curriculum; practical medicine and surgery, in an institution in which the treatment of patients is entrusted to the senior pupils under the superintendence of the medical officers, during six months.

Previously to the year 1841, attendance on separate courses on the following subjects will not be insisted on:—Physiology and general anatomy; general pathology and pathological anatomy; general therapeutics. The academical year shall consist of a winter session and a summer session; the former to continue not less than six months, the latter not less than three months.

ORDER OF STUDY.

The following is recommended as the order of study:

Winter Session.	FIRST YEAR.	*Summer Session.*
Descriptive anatomy.		Comparative anatomy.
Chemistry.		Practical chemistry.
Materia medica and pharmacy.		Botany.
	SECOND YEAR.	
Physiology and general anatomy.		General pathology and pathological anatomy.
Practical anatomy.		
Principles and practice of surgery.		General therapeutics.
Clinical instruction.		
	THIRD YEAR.	
Principles and practice of medicine.		Midwifery and diseases of women and infants.
Practical anatomy.		
Clinical instruction.		
	FOURTH YEAR.	
Hygiene.		Medical jurisprudence.
Clinical instruction.		
Practical medicine and surgery.		

Previous Examination.

The previous examination shall take place twice a year, in the months of May and October.

The candidate, before being admitted to this examination, shall be required to produce certificates showing that he has been engaged during two years in the study of medicine subsequently to having passed the examination in arts.

The fee for this examination shall be 2*l.* If the candidate fail to pass the examination, the fee shall be returned to him.

The examination shall be conducted partly by means of printed papers, and partly by *vivâ voce* interrogation. The student shall be called upon to point out and describe the different objects under examination.

Candidates shall be examined in the following subjects:—Descriptive anatomy, chemistry, botany, materia medica and pharmacy.

Examination for honours. — Candidates who have passed the previous examination, and who have produced certificates that they have not completed their 21st year, may be examined for honours in the following subjects:—Anatomy, materia medica and botany, chemistry and pharmacy. The examination shall be conducted by means of printed papers.

In each of these three subjects, a gold medal of the value of 5*l.* shall be awarded to the candidate who shall distinguish himself the most, if in the opinion of the examiners he possess sufficient merit: and should one candidate obtain two of the medals, he shall further receive 30*l.* per annum for the next two years from the University chest.

Examination for the Degree of Bachelor of Medicine.

The examination for the degree of Bachelor of Medicine shall take place twice a year, in the months of May and October.

No candidate will be admitted to this examination within two years after having passed the previous examination.

The candidate shall be required to produce a certificate of moral character from a teacher of each school or institution at which he has studied, as far as the teacher's opportunities of knowledge extend.

The required certificates shall be transmitted to the registrar at least fourteen days before the examination begins.

The fee for the degree of Bachelor of Medicine shall be 15*l.* If the candidate fail to pass the examination, the fee shall be returned to him.

The examination shall be conducted partly by means of printed papers, and partly by *vivâ voce* interrogation.

In anatomy, the candidate shall be required to dissect a portion of the human body, and to demonstrate from preparations; and in chemistry, to show his power in testing, and generally in chemical manipulation.

[When the necessary arrangements can be effected, the candidate's practical knowledge in medicine and surgery will be tested at the bed-side.]

Candidates shall be examined in the following subjects:—

First day.—Descriptive anatomy, general anatomy and physiology, surgery.

Second day.—Chemistry, medical jurisprudence, midwifery and the diseases of women and infants.

Third day.—General pathology and therapeutics, hygiene, practical medicine.

Examination for Honours.

Bachelors of medicine who have produced a certificate that they have not completed their 25th year, may be examined for honours in one or more of the following subjects:—Anatomy and physiology, surgery, medicine.

The examination shall be conducted by means of printed papers.

In anatomy and surgery, the candidate shall also be required to dissect and demonstrate.

In each of these three subjects, a gold medal of the value of 10*l.* shall be awarded to the candidate who shall distinguish himself the most, if in the opinion of the examiners he possess sufficient merit; and should one candidate obtain two of the medals, he shall further reeeive 50*l.* per annum for the next three years from the University chest, with the style of University Medical Scholar.

Degree of Doctor of Medicine.

The examination for the degree of doctor of medicine shall take place once a year, in October.

Candidates for this degree shall be required to produce certificates that, subsequently to having taken the degree of bachelor of medicine, they have attended to practical medicine for the space of two years in an institution recognised by this University, or have been engaged during five years in the practice of their profession. One year of attendance in an institution for practical instruction will be considered equivalent to two years of practice.

Candidates shall also be required to produce a certificate of moral charaeter from two persons of respectability, fourteen days at least before the examination.

The fee for this degree shall be 25*l.* If the candidate fail to pass the examination, the fee shall be returned to him.

Candidates shall be examined in the following subjects:—

First day.—Physiology, medical jurisprudence, practical medicine.

Second day.—General pathology and therapeutics, hygiene and medical statistics, mental diseases.

Thesis.—The candidate shall be required to write and defend a thesis on some branch of medical science, or of one of the collateral sciences. The thesis may be written in English or in Latin, and must be delivered to the registrar at least fourteen days before the examination.

Certificates of Proficiency.

Candidates who desire to obtain a certificate of proficiency in surgery or in midwifery shall, in lieu of the second part of the examination, undergo an examination in the subject in which they desire a certificate.

The desire to be examined for such certificate must be stated on the thesis when delivered to the registrar.

Doctors of Medicine of this University who, at a period subsequent to that of taking their degree, may be desirous of obtaining a certificate of proficiency in surgery or in midwifery, may be admitted to examination, on giving the necessary notice and paying a fee of 10*l.*

Medical Schools and Institutions.

Medical schools shall be required to possess ample means of illustrating their several courses of lectures; as, a museum of anatomy, of pathological anatomy, of materia medica and botany, a chemical laboratory, &c.

Lecturers shall examine their pupils after at least every fifth lecture.

Certificates shall be in the following form:—This is to certify that during the session of 18 attended my course of instruction on which consisted of lectures and examinations, and that he was present at examinations.

For *practical chemistry* the teacher shall certify that the pupil diligently operated during the course, which consisted of lessons; and for *practical anatomy* the teacher shall certify that the pupil dissected carefully during at least two winter sessions.

Certificates for more than two subjects will not be received from the same teacher.

Hospitals.

Each hospital shall accommodate at least one hundred patients.

A clinical lecture on medicine and a clinical lecture on surgery shall be given at least once a week.

The histories of the diseases shall be recorded in a journal, to be open to the inspection of the pupils.

The *post-mortem* examinations shall be made in the presence of the pupils, and the appearances recorded in the journal of cases.

Students already engaged in the Study of Medicine.

Students already engaged in their medical studies shall be required, during the time yet requisite for the completion of their education, to conform as far as possible to the course of study enjoined by this University.

Students of not more than two years' standing in October 1838, shall be required to pass the subjoined examination in arts and the *previous examination.*

Students of more than two years' standing in October 1838, shall be required to pass the subjoined examination in arts before being admitted to the examinations for the degree of Bachelor of Medicine.

They shall be required to produce a certificate that they have completed their twenty-first year; and also a certificate of moral character from a teacher in each school or institution at which they have studied, as far as the teacher's opportunities of knowledge extend.

The fee for the examination in arts shall be 5*l.*; for the examination in medicine, 20*l.* Should the candidate fail to pass either examination, the fee shall be returned to him.

Examination in Arts.

Latin.—Celsus, the first four books; Heberden's Commentaries.

Natural Philosophy.—As in the examination in arts.

Examination in Medicine.

The examination in medicine shall be the same as the examination for the degree of Bachelor of Medicine. Candidates who have not passed the *previous examination* shall also be examined in botany, materia medica, and pharmacy.

PRACTITIONERS DESIROUS OF OBTAINING DEGREES IN MEDICINE.

Degree of Bachelor of Medicine.

Legally qualified practitioners in medicine or surgery may be examined for the degree of Bachelor of Medicine.

The candidate shall be required to produce a certificate of moral character from two persons of respectability, fourteen days at least before the examination.

The fee for the examination in arts shall be 5*l.*; for the examination in medicine, 15*l.* If the candidate fail to pass either examination, the fee shall be returned to him.

* In order that the teacher may be enabled to certify attendance of the pupils at the examinations, it is recommended that at each examination a roll be called, and the absentees marked.

Examination in Arts.

The examination in arts shall be the same as that required of students already engaged in the study of medicine.

Examination in Medicine.

Candidates shall be examined in the following subjects:—

First day.—Anatomy, physiology, surgery.

Second day.—Chemistry, medical jurisprudence, midwifery and the diseases of women and infants.

Third day.—Materia medica and therapeutics, pathological anatomy, practical medicine.

Degree of Doctor of Medicine.

Legally qualified practitioners in medicine or surgery, of five years' standing, may, after having taken the degree of Bachelor of Medicine in this University, be examined for the degree of Doctor of Medicine at the next term for that examination.

The candidate shall be required to produce, at least fourteen days before the examination, a certificate of moral character from two persons of respectability.

The fee for this degree shall be 25*l.* If the candidate fail to pass the examination, the fee shall be returned to him.

Candidates shall be examined in the following subjects:—Pathology and therapeutics; hygiene, and medical statistics; mental diseases.

Thesis.—The candidate shall be required to write and defend a thesis on some branch of medical science, or of one of the collateral sciences. The thesis may be written in English or in Latin, and must be delivered to the Registrar at least fourteen days before the examination.

Examiners.

The number of medical examiners shall be fifteen; to form three sections according to the three parts of the examination for the degree of Bachelor of Medicine. The examiners for the previous examination, and for the degree of Doctor of Medicine, to be agreed upon each term.

The examiners shall be appointed at a meeting of the Senate, to be held in June or July. [The appointment for next year shall take place at a meeting of the Senate, to be held in February 1839.]

They shall continue in office for one year from the time of their appointment.

They shall have power to discontinue the examination of any candidate who may misconduct himself.

They shall each receive from the University chest.

UNIVERSITY COLLEGE MEDICAL SOCIETY.

Friday, October 19, 1838.

A PAPER was read by Mr. James Blake on—

The Action of various Substances on the Animal Economy when introduced into the Veins, more particularly as regards the Influence they exert in modifying the Circulation.

This paper was read before the medical section of the British Association, at Newcastle; but as no correct report of it has yet appeared, we have taken this opportunity of furnishing our readers with a short abstract of it.

Mr. Blake commenced by stating, that it was only in compliance with a wish, expressed by many members of the Society, that he had been induced to bring a communication before them, which had already been read before another society.

As the experiments brought forward were performed by the aid of the hæmadynamometer, a description of this instrument was given. The use of it is to enable us to ascertain the pressure of the blood on the parietes of the arteries; and as this pressure is immediately affected by any change in the action of the heart, or in the capillary circulation, we have a valuable instrument by which these changes can be instantly determined, and their amount observed*. The cause of the pressure of the blood on the parietes of the arteries, and the manner in which this might be modified, were then considered. It was shewn, that the pressure of the blood in the arterial system, as indicated by the hæmadynamometer, was only an expression of the force required to cause a certain quantity of blood to pass through the capillaries in a given time. Experiments were related shewing the effect of respiration on the action of the heart, and the changes produced in the circulation by the injection of blood and water into the veins.

After these preliminary experiments, the investigation of the action of those substances which exert a more decided effect on the animal economy was entered into. These were divided into three classes. The first were those which kill by acting directly on the contractility of the heart, and which, when injected into the veins, suddenly stop the contractions of that organ. The second class included those substances which, although causing death often more

* A description and drawing of this instrument will be found in Todd's Cyclopædia of Anatomy and Physiology, art. *Circulation.*

rapidly than the former, yet leave the heart apparently unaffected, the action of the poison being directly on the nervous system. The third class contained those which agreed in exerting a powerful influence in modifying the capillary circulation. The substances included in the first class, whose action had been experimentally investigated, were, the nitrate, arsenite, and carbonate of potass, carbonate of soda, ammonia, iodide of arsenic, oxalic acid, and galls. All these substances, when injected into the veins, stopped the pulsations of the heart in a few seconds. The injection of a solution, containing four grains of nitre, arrested the action of the heart in twenty-five seconds; respiratory movements and sensibility continuing for some seconds after the pulsations of the heart had entirely ceased. After death, the heart was found to have lost its irritability, the application of the galvanic stimulus not producing contractions two minutes after death. The left cavities of the heart contained scarlet blood. Experiments were related to shew the action of the other substances in this class, and a few general remarks were made on them. It was observed that the sudden manner in which the heart is stopped—the absence of irritability in that organ after death—the continuation of the respiratory movements after the cessation of the heart's action—the absence of any marked effects on the nervous system—and the time and manner in which death took place corresponding to that which is observed when excision of the heart is performed—all tended to justify the arrangement which had been made of these substances, as proving fatal by acting directly on the heart. The action of some of these substances, which appeared to be rapidly absorbed when taken into the stomach, as diuretics, was pointed out as affording an effectual means by which their accumulation in the blood to any amount was prevented. It is an interesting fact, that agreeing as all these substances do, in destroying the irritability of the heart, they should also possess the common property of producing marked chemical changes in the composition of the blood.

Experiments illustrating the action of the second class of substances, or those which produced death by acting directly on the nervous system, were then brought forward. They had been performed with strychnine, hydrocyanic acid, and conia. In every instance, no marked effect was exerted on the heart, which continued carrying on the circulation for some minutes after every external sign of life had ceased, as if independent of the inanimate mass which surrounded it. It was ultimately stopped, in every case, by asphyxia. In entering on the consideration of the third class of substances, it was stated, that the grounds which had been taken for their classification, was not, as in the other classes, the manner in which they produced death; but the common property which they possessed, of acting on the capillary circulation. Solutions of euphorbium, tobacco, and digitalis, when injected into the veins, afforded striking examples of this. The injection of a solution of euphorbium into the jugular vein of a dog, was followed by the cessation of the action of the heart in twenty seconds; it remained suspended for thirty seconds, not the slightest movement taking place during that time; the heart again commenced pulsating, and in a few beats the pressure in the arterial system became increased to four times the amount it was before the commencement of the experiment. The pressure sustained by the parietes of the arteries was sometimes equal to a column of mercury of fifteen inches, or about seven pounds to the square inch. This great increase of pressure in the arterial system was considered to be owing to the passage of the blood through the capillaries being rendered more difficult, for the action of the heart did not appear to be increased. The cessation of the pulsations of the heart on the first injection of the substance, admitted of being explained on the supposition that the capillary circulation over its parietes is for a short time suspended by its immediate application. This explanation received confirmation from an experiment, in which a solution of digitalis was injected into the arteries. In neither of the two last classes of substances are to be found any which produce any striking change in the composition of the blood. Should they act by altering that fluid, the changes they effect are such as, in the present state of organic chemistry, we are unable to detect.

The action of morphia, cantharides, and nitric acid, when injected into the veins, was then considered. These substances would not admit of being placed in either of the above classes. The two former seemed to act directly on the heart, rendering its pulsations slower. Nitric acid appeared to produce death, by causing a mechanical obstruction to the passage of the blood through the lungs. A short detail of some experiments on the effect of the destruction of the spinal cord on the action of the heart, proved that this organ was not apparently affected by the sudden destruction of considerable portions of the cord.

MONTHLY LIST

OF

DRUGS ON SALE IN THE ENGLISH MARKET,

With their Prices and several Duties.

(From the Official Returns, October 23, 1838.)

	Price.			Duty.		Duty Paid.	
						In 1838 to last week.	Same time last year.
	£ s. d.		£ s. d.		s. d.		
Aloes, Barbadoes, D.P. c	12 0 0	to	30 0 0				
Hepatic (dry) BD..... c	5 0 0		14 0 0	B P. lb	0 2	86,807	85,785
Cape, BD. c	2 5 0		——	F. lb	0 8		
Anise, Oil of, German, D.P.... lb	0 9 6		0 9 6	F. lb	1 4	133	251
E. I. ..... lb	0 6 0		0 6 0	E. I.	1 4	972	1,687
Asafœtida, B.D. c	2 10 0		5 0 0	c	6 0	43	25
Balsam, Canada, D.P. ..... lb	0 1 3		0 1 4	lb	0 1	6,470	1,350
Copaiba, BD. ..... lb	0 4 0		——	c	4 0	205	206
Peru, BD. ..... lb	0 4 6		——	lb	1 0	1,798	696
Benzoin (best) BD..... c	25 0 0		50 0 0	c	4 0	79	117
Camphor, unrefined, BD..... c	0 9 0		——	c	1 0	490	441
Cantharides, D.P. ..... lb	0 5 3		0 5 6	lb	1 0	12,931	21,290
Carraway, Oil of, D.P. ..... lb	0 8 0		0 8 6	lb	4 0	592	1,370
Cascarilla or Eleutheria Bark, D.P.C.	3 10 0		——	lb	0 1	4,579	3,483
Cassia, Oil of, BD..... lb	0 6 6		0 6 6	lb	1 4	3,633	3,046
Castor Oil, East India, BD ..... lb	0 0 4		0 0 9	c	1 3	4,916	5,312
West I. (bottle) D.P. 1½ lb	——		——				
Castoreum, American ..... lb	0 17 0		0 18 0				
D.P. Hudson's Bay ..... lb	0 18 0		1 0 0	lb	0 6	782	203
Russian..... lb	none						
Catechu, BD. Pale c	1 0 0		——				
Dark	3 0 0		——	c	1 0	29,484	25,958
Cinchona Bark, Pale (Crown).... lb	0 2 0		0 3 6				
BD. Red ..... lb	0 2 0		0 4 0	lb	0 1	95,469	111,492
Yellow ..... lb	0 3 6		0 3 8				
Colocynth, Turkey ..... lb	0 2 6		0 4 0	lb	0 2	13,183	7,372
D.P. Mogadore ..... lb	0 3 0		——	lb	0 2	17,939	11,033
Calumba Root, BD. c	0 12 0		1 15 0	lb	0 6	22,603	31,657
Cubebs, BD. c	3 15 0		4 0 0	c	4 0	85	78
Gamboge, BD. c	5 0 0		15 0 0	c	4 0	482	430
Gentian, D.P. c	1 4 0		——	c	6 0	39	54
Guaiacum, D.P..... lb	0 1 0		0 1 8				
Gum Arabic, Turkey, fine, D.P... c	8 0 0		9 0 0				
Do. seconds, D.P. .. c	5 0 0		7 0 0	c	6 0	6,571	3,760
Barbary, brown, BD. c	2 0 0		——				
Do. white, D.P..... c	4 10 0		——				
E. I. fine yellow, BD. c	2 14 0		3 0 0	c	6 0	5,371	1,949
Do. dark brown, B.D. c	1 15 0		2 5 0				
—— Senegal garblings, D.P. c	3 0 0		3 5 0	c	6 0	18,201	3,880
—— Tragacanth, D.P. c	8 0 0		12 0 0	c	6 0	453	321
Iceland Moss (Lichen), D.P. .... lb	0 0 2½		0 0 3	lb	0 1	5,179	12,243
Ipecacuanha Root, B.D. ..... lb	0 1 9		0 2 0	lb	1 0	11,350	8,727
Jalap, BD. ..... lb	0 2 6		0 2 8	lb	0 6	33,347	44,711
Manna, flaky, BD. ..... lb	0 4 0		0 5 6	lb	0 3	5,829	16,206
Sicilian, BD. ..... lb	0 1 7		——				
Musk, China, BD. ..... oz	1 0 0		1 8 0	oz	6 0	1,665	1,877
Myrrh, East India, BD. c	5 0 0		14 0 0	c	6 0	124	115
Turkey, BD..... c	2 0 0		11 10 0				
Nux Vomica, BD..... lb	0 8 0		0 9 0	lb	2 6	740	1,120
Opium, Turkey, BD. ..... lb	0 14 6		——	lb	1 0	22,900	33,795
Peppermint, Oil of, F. BD..... lb	1 0 0		——	lb	4 0	751	1,015
Quicksilver, BD. ..... lb	0 3 8		——	lb	0 1	315,984	235,429
Rhubarb, East India, BD..... lb	0 2 6		0 3 3	lb	1 0	30,213	35,843
Dutch, trimmed, D.P. lb	0 3 6		0 4 0				
Russian, BD. ..... lb	0 8 3		——	F. lb	1 0	5,624	5,873
Saffron, French, BD. ..... lb	0 18 0		——				
Spanish ..... lb	0 19 0		1 0 0	lb	1 0	4,011	4,321
Sarsaparilla, Honduras, BD..... lb	0 1 0		0 1 9	lb	0 6	98,041	88,054
Lisbon, BD. ..... lb	0 2 0		——				
Scammony, Smyrna, D.P..... lb	——		——				
Aleppo ..... lb	0 18 0		1 0 0	lb	2 6	6,225	6,252
Senna, East India, BD. ..... lb	0 0 3		0 0 4	E. I. lb	0 6	59,751	83,593
Alexandria, D.P..... lb	0 1 9		0 1 10				
Smyrna, D.P. ..... lb	0 1 0		0 1 3	Other sorts	0 6	54,335	48,016
Tripoli, D.P. ..... lb	0 1 0		0 1 3				

‡§‡ BD. In Bond.—c. Cwt.—B. P. British Possessions.—F. Foreign.—D. P. Duty paid.

HEALTH.

Some popular American writers have lately laid hold of this subject, to the great advantage of the society in which they live. Dr. Combe's "Principles of Physiology" has gone through several editions, and I know that the demand of society for fresh air and soap and water has considerably increased in consequence. But much remains to be done. In private houses, baths are a rarity. In steam-boats the accommodations for washing are limited in the extreme; and in all but first-rate hotels, the philosophy of personal cleanliness is certainly not understood. The Creoles of Louisiana are the most satisfactory hosts and hostesses in this respect, except a few particularly thoughtful people elsewhere. In the house of a Creole, a guest finds a large pan or tub of fresh cold water, with soap and towels, placed in a corner of his room, morning and night. In such a climate as that of New Orleans, there is no safety nor comfort in anything short of a complete ablution, twice a day. On board steam-boats which have not separate state-rooms, there are no means of preserving sufficient cleanliness and health. How the ladies of the cabin can expect to enjoy any degree of vigour and cheerfulness during a voyage of four or five days, during which they wash merely their faces and hands, I cannot imagine. It is to be hoped that the majority will soon demand that there should be a range of washing closets in all steam-boats whose voyages are longer than twenty-four hours."—*Society in America*, by Harriet Martineau, vol. iii. pp. 151—2.

BOOKS RECEIVED FOR REVIEW.

The Principles of Surgery. By John Burns, M.D. F.R.S., Regius Professor of Surgery in the University of Glasgow. 2 vols. Longman and Co.

Chemistry of Organic Bodies—Vegetables. By Thomas Thomson, M.D. &c. &c. 1 large vol. Ballière.

Urinary Diseases and their Treatment. By Robert Willis, M.D., Licentiate of the College of Physicians, and Physician to the Royal Infirmary for Children. Sherwood and Piper.

An Examination of Phrenology, in two lectures, delivered to the Students of the Columbian College, district of Columbia, February, 1837. By Thoms Sewall, M.D. Professor of Anatomy and Physiology. James S. Hodson.

Practical and Surgical Anatomy. By W. J. Erasmus Wilson, Lecturer on Practical and Surgical Anatomy and Physiology. Longman and Co.

A Treatise on Neuralgia. By Richard Rowland, M.D. Member of the Royal College of Physicians of London, Physician to the City Dispensary. S. Highley.

Outlines of Human Osteology. By F. O. Ward. Henry Renshaw.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, October 18.

Henry Smith, Plymouth.—John James Jackson, Witton-le-Wear.—John Stephens.—J. H. C. W. Dinham, Camelford.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *Oct.* 23, 1838.

Age and Debility	15	Hooping Cough	1
Asthma	3	Inflammation	5
Cancer	1	Bowels & Stomach	5
Childbirth	1	Brain	3
Consumption	32	Lungs and Pleura	7
Convulsions	11	Insanity	2
Croup	1	Locked Jaw	1
Dentition or Teething	2	Measles	4
Dropsy	8	Paralysis	1
Dropsy in the Brain	4	Rheumatism	1
Fever	7	Small-pox	16
Fever, Scarlet	4	Sore Throat and Quinsey	1
Fever, Typhus	4	Unknown Causes	44
Gout	1		
Hæmorrhage	1		
Heart, diseased	2	Casualties	3

Decrease of Burials, as compared with the preceding week . . . 59

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

Thursday . 18	from 37	to 54	29·92	to 29·86
Friday. . . 19	47	58	29·77	29 96
Saturday . 20	47	63	29.96	30·10
Sunday . . 21	47	63	30·17	30·15
Monday . . 22	54·5	62	30·08	30·00
Tuesday . 23	53	58	29·92	29·79
Wednesday 24	53	59	29·70	29·76

Wind, S.W.

Except the 19th, 20th, and afternoon of the 24th, generally cloudy; rain fell on the 18th, and mornings of the 19th and 24th.

Rain fallen, 15· of an inch.

CHARLES HENRY ADAMS.

NOTICES.

We shall be glad to hear from J. R. W., to whom we are aware of having been formerly indebted.

We cannot give insertion to Dr. Howison's letter about the College of Surgeons.

WILSON & SON, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, NOVEMBER 3, 1838.

LECTURES ON SURGERY,

DELIVERED AT ST. THOMAS'S HOSPITAL,

BY THE LATE MR. CLINE;

With Notes.

[THESE lectures were written by Dr. Wilkinson when attending Mr. Cline's lectures, in the years 1787-88-89.

Extract of a letter from Dr. Wilkinson, dated Feb. 6, 1838:—"They (these lectures) are the results of six courses of lectures I attended at St. Thomas's, in 1787, 1788, and 1789; and I am in hopes I did not omit any interesting part of Mr. Cline's valuable observations. The one I had the pleasure of giving you is the repeatedly corrected copy."]

LECTURE V.

Operation for Inguinal Hernia—Congenital Hernia—Remarkable cases of Bubonocele—Crural Hernia—Umbilical Hernia—Various other Herniæ.

The operation for hernia.—This operation is attended with some degree of hazard at all times, therefore should not be performed without urgent necessity, which we can be directed to only by the symptoms of the patient. It is not the duration but the urgency of symptoms that must direct us, for sometimes it may be necessary in three or four hours after strangulation, at other times I have known the symptoms go on for eight or ten days before the operation was absolutely necessary. The symptoms vary very much according to the age of the patient. In old subjects, when there is a languid circulation, similar states of strangulation do not produce so immediately violent inflammation of the parts as where the circulation is carried on with greater force, when inflammation is sooner in taking place and hurrying on to the state of mortification.

When the symptoms have been very violent, succeeded by hiccup, which has generally been considered as a symptom of mortification, then we have no time to lose. I have known it very frequently arise before gangrene; however, it usually very soon follows. We should not always wait for the symptoms, for sometimes mortification hurries on so rapidly, that in so doing we may wait too long. The operation should be performed when the symptoms of inflammation are very violent, and the proper remedies have been applied with no effect, though the strangulation has not been present above three or four hours; for though the operation is very dangerous, there is more danger in delay. Also, when the operation is properly performed, and no unfavourable circumstances arise, I believe by far the greatest number would recover, for the only danger occurring from the operation (provided it has not been deferred too long), is from exposure of the cavity of the abdomen. Supposing all the necessary means have been used for the abatement of symptoms with little effect, we should then propose the operation to the patients; urging the necessity of submitting to it, and the great danger there is in delay should be strongly enforced.

To perform this operation the patient should be placed at a convenient height on his back, his legs hanging off the table, so as to have a better command of the parts. A common straight knife will be necessary to make the external incision; after the opening is made into the sac, a director is required in dilating it. The French use a winged director to press down the intestines from the way of the instrument, by which the wound may be dilated with greater security; they also use a concealed bistoury for dilating

the abdominal ring. Some dilate the sac with crooked scissors, which are very bad on all occasions. There is an instrument described by French surgeons for dilating the ring, to prevent the necessity of cutting it, by stretching it. This is entirely speculative, and must have been contrived by one unacquainted with the structure of the parts; for being composed of tendinous fibre, it is perfectly inelastic; and if the wound is dilated by this, it is merely by laceration; therefore it is better to use a knife, with a button at its end, which is very convenient for dilating the sac or ring; and if the knife is made concave it will be more convenient. The best director is the finger. Therefore, a common dissecting knife, and a knife with a button on the point of it, will be sufficient. The incision should be commenced at the upper part of the tumor. In a common bubonocele the tumor extends above the abdominal ring, a little obliquely upward and outward. The incision should be begun at the top of the tumor, and extending downwards, that you may have a perfect command of the sac and its contents, bringing them all in view, that you may determine with greater accuracy how to proceed. By this incision the fascia is exposed which covers the abdominal ring and sac, which fascia should be divided; this has been frequently mistaken for the hernial sac. Having thus made the ring so distinct by the first incision that you can feel its edges when the parts are thus exposed, and you have opened the fascia which covers the hernial sac, you cut into it, which should be done with the greatest caution, otherwise you may wound a portion of intestine situated within the sac; but there is most commonly a quantity of serum interposed between the intestines and sac, so that you are generally safe; but as we are not always sure of this we should proceed with the greatest caution, and carefully dissect through, fibre by fibre, till an opening is made in that part; and if the hernial sac is not so much on the stretch but that you can pinch up a part, it will be done with the greatest safety. Sometimes, from inflammation, the intestine is adherent to the sac, and may happen to be so at that part you are opening; this will be again attended with a good deal of difficulty, for by the immediate union of the parts you will have a difficulty in distinguishing which is intestine and which is the sac; therefore, in these cases, having dissected with the greatest caution, you find you cannot get in at that part; you then try another, and in the part situated inferiorly you will be more likely to succeed than at the abdominal ring. Under these circumstances, having tried unsuccessfully about the middle of the sac, I would then make an incision at the most inferior part; having dissected on with great caution, probably as soon as you get through, a bloody-like serum will pass out if there is water in the cavity; if the serum escapes, you introduce the finger, taking care that nothing is interposed between the finger and sac; then with a curved knife carry it along the sac, and dilate it upward; it need not be dilated quite up to the ring, as it opens the cavity of the abdomen. Having thus dilated it, expose the contents, which should be next carefully examined, whether intestine or omentum, or both, to see if any gangrene has taken place in any part. If the stricture is situated within the abdominal ring it will then be necessary to carry the knife between the sac and ring, and dilate the ring a small way, a little obliquely upward and outward, as much as will admit of your readily passing the finger into it. Having dilated thus much, then carry your finger up towards the orifice of the sac; and if you can carry it into the cavity of the abdomen, you are then to attempt a reduction of the parts. If both intestine and omentum are in the hernia, you try the intestine first, being most easy, which having returned, you then replace the omentum. When the parts are returned, the integuments on the outside may be brought in contact with each other, making two or three ligatures, which may be supported with slips of sticking plaster. The patient should be carefully laid down on his back, in an horizontal position, not with his shoulders elevated, till some degree of union has taken place.

There are many obstacles to the immediate reduction of the parts: 1st, adhesions, which arise very frequently between the omentum and hernial sac, or intestines and sac; either of these may produce adhesions; or, from preceding inflammation long before, old adhesions may have formed. In recent adhesions, sometimes the attachments are so slight, that you may readily separate them with your fingers; but when more firm, a knife will be necessary. If the omentum is adhering to the sac, we may make more free with it than the intestine. A large portion may often be removed with great safety; that portion may be removed which is adhering immediately to the hernial sac, and the remainder returned. However, we had better take away no more than is absolutely necessary; for the higher up, the larger are the branches situated within it, and a ligature on the omentum is unfavourable, for its strangulation by ligature may produce the symptoms of strangulated intestine; it may produce inflammation, which may extend along its substance; or if the ligature gets

into the abdomen it may cause a general inflammation of the cavity. If intestine adhere to the hernial sac it should be separated with great caution, for we must avoid wounding the intestine, or even cutting its coats. To remove this it is better to dissect off a small portion of the hernial sac adhering to the intestines, than endanger the cutting of the intestine itself. Also, they are sometimes found adhering to each other, and not to the sac; when this is the case, they form such a bulk of parts, that if a large opening is not made they cannot be replaced; for when the intestines adhere from inflammation they must be thrust in all at once. This requires a larger opening than we should wish to make, but is sometimes absolutely necessary; this renders the operation more dangerous, on account of the large aperture to be made into the abdominal cavity. Another great impediment to the return of the parts is that of large portions of omentum adhering at the orifice of the sac. Also, gangrene having taken place of the omentum, which often arises from patients not submitting to the operation so early as they ought to do. If the omentum, it may be removed; but in this it may be sometimes difficult to discover whether gangrene has taken place or not, especially if it has but just become mortified. To determine whether it is a part which may be safely returned or not, after you have taken off the stricture above and spread out the omentum, you may press the blood into the abdomen. If you find more blood returning into the veins, you may be sure circulation is carried on, though languidly, and if returned into the abdomen, it would go on as freely as before; but if no circulation is observed, so much as is defective should be removed, until the edges bleed; the remaining part should be returned into the abdomen; a ligature should be made on each of the bleeding vessels. You return the omentum into the orifice, leaving the ligatures on the outside. If the intestine is mortified, we should confine that portion of it to the orifice, that the contents may be discharged from the wound, which, if effused in the abdomen, would produce general inflammation and symptoms of irritation, and thereby speedily be fatal. The danger is from delaying the operation and exposing the abdomen. To prevent the intestine being drawn into the cavity of the abdomen, a needle should be passed round the mesentery, near the intestines, where it is gangrenous, and the needle carried through the integuments situated over the ring; thus forming a kind of artificial anus, in which state patients have often recovered, and in which they have lived a great number of years afterwards in tolerable health, only with the inconvenience of being under the necessity of wearing a great deal of tow to keep themselves clean. However, in some cases of gangrene of the intestines, when but of small extent, union will take place between that and the edges of the wound. If it be only a small portion of the side of the intestine which has sloughed, the principal part of the diameter of the canal being preserved, there will still be room enough for the contents to pass onward without much inconvenience. Some surgeons have proposed cutting off all the mortified parts, and introducing a cylinder of card and sewing the intestines together. I believe this is a very speculative operation, and very little probability of its being attended with success, for it would be very likely to produce general inflammation of the cavity.

Usually, after the operation has been performed, the patient becomes easy, and all the symptoms of strangulation immediately cease; but sometimes they have continued as violent as before. In all such we may suspect the operation has been incomplete, viz., that it has been only apparently performed, where the surgeon has thought the ring the only impediment to the return of the hernia, the patient has continued to vomit, because a portion of intestine situated within the sac was strangulated. We should, therefore, during the operation, see that all is free above; that there are no membranous bands situated within the orifice, by which the intestine is strangulated. After the operation, if symptoms should continue or return, the wound should be opened and the sac examined, passing the finger up to ascertain if the intestine be free. Also, more contractions than one may have taken place in a hernial sac, which, in cases of strangulation, should be dilated throughout their whole extent, be as many as there will, till you have a free communication with the abdominal cavity. It has been proposed to perform the operation without opening the hernial sac at all, from the idea of the greatest danger of the operation consisting in the exposure of the abdominal cavity. In many instances the impediment arises from the narrowness of the orifice: and it is necessary that the sac should be open, and the orifice dilated. Also, great danger will arise from our not being certain of the state of the parts within. If there be any adhesions within, there will be an insuperable impediment to the return of the contents. If grangrene has taken place, though you can return the contents into the abdomen, it will be with the utmost hazard to the patient's life.

After the operation, the wound should be treated like any common wound. Heal-

ing goes on very favourably; and after the cicatrix has been formed, it will be necessary to wear a truss for some time, to keep the parts supported.

Hernia congenita.—In this the intestine or omentum and testis are both situated in one common cavity. The difference in this from the former is, that it exists from birth; the other occurs afterwards. Thus the appearance of the congenital hernia will be similar to that of other herniæ in most respects. On examining the tumor, the only variation we shall find is, that the testis will be blended with the contents of the hernia. That the testis is not to be felt at the bottom of the sac, is very evident in common hernia. The treatment of this, and the operation, will be the same, excepting that we should not dilate the sac to the bottom, but leave so much undilated as will cover the body of the testis, and form a complete tunica vaginalis of that part. This will be attended with the advantage of its collapsing round the the testis, which will prevent its being inflamed from exposure. Congenital herniæ are frequently not apparent for many years after birth in patients who themselves never had any suspicion that they had a hernia. When grown up, they have a hernia formed, which, on examination, is found to be congenital; as in one patient on whom I performed this operation, when about 18 or 19 years of age.

We have another variety in the bubonocele to point out, which is that of the sac: though it comes through the abdominal ring, yet it is situated differently with respect to the epigastric artery to what the sac is in common hernia. I have met with two cases where the sac, instead of taking the course of the spermatic vessels, has come from the abdomen, from the inside of the epigastric artery; the epigastric artery was situated between the spermatic vessels and the sac. In which case the orifice of the sac must be opposed to the orifice of the ring, and the epigastric artery be on the outside. This variation requires some difference both in the application of the truss and in the operation. In such cases the pad of the truss should be applied more immediately on the ring, instead of obliquely on the outside, as in common cases; but then to do this it is necessary to point out the difference of these herniæ in the living subject from that in the common situation, which may be known in two ways. If the hernia has descended, and the sac is distended, you will see no tumor above the ring; it immediately terminates at the ring; whereas in common hernia the tumor is extended on the inner side of the tendon for some way upward. But here the orifice of the sac is opposite to the ring. Provided the hernia has not descended far, or in a very inconsiderable degree, it may be known by the manner in which the descent takes place. If a common hernia, and you desire the patient to cough, it will raise the finger in the descent. If a hernia of this kind, by making pressure above there, you cannot compress the sac at all, and it will descend as easily as if no pressure was made. By thus attending to the manner in which the hernia descends, you may determine whether it is in the common or this unusual situation. The difficulty will be in the manner of applying the truss. In the operation in this case you should not dilate the hernial sac so high up as the other; only an inch above the ring, leaving an inch undivided. If you slit it above, the cavity of the abdomen will be more exposed, and the patient's life be in great hazard.

I shall next relate a few extraordinary cases of *bubonocele*, which will serve to illustrate this subject.

A patient of Mr. Chandler's, in this hospital, was brought in one evening with a strangulated hernia, which he had laboured under for some days; he had extremely severe symptoms before he came into the house, as hiccuping, &c. From the feel of the tumor, there was reason to believe gangrene had taken place. In performing the operation, on laying bare the part, a large portion of the intestine was found in a gangrenous state; the fæces passed out at the orifice of the wound, also, from the anus. It was supposed at the time of the operation that the whole circumference of a portion of the intestine was in a gangrenous state. This excited the curiosity of many practitioners. After he had continued in this state for some weeks, the intestine, which was exposed at the orifice of the wound, became everted, projecting outwards, forming a kind of prolapsus, and a pretty large portion was at length forced out of the wound. As soon as the inversion had taken place, there was no discharge by the anus. He continued in this state for nine years in this hospital, and was under the necessity of covering the intestine with a large pad of tow to receive the fæces. When the part was exposed, there was an excellent view of the peristaltic motion of the intestine, which was at all times going on in that part: it was a florid surface, being the internal surface that was exposed, which turned outward. He died in the hospital; but two or three years before that event he had a hernia form on his left side. On examining the patient after death, you could pass the finger through the everted portion, under which there was another opening, which went into the cavity of

the abdomen. There were three openings externally—two in the colon, formed by sloughing, and adhesions subsequently taking place. The rectum was larger than usual, which was owing to a quantity of white linimentous substance collected there, and found throughout the whole large intestines, which seemed to be the secretion of the intestines themselves. This being secreted, kept accumulating in the rectum, and not being stimulating in itself, and there being no stimulus from the bile, &c., was not evacuated.

There are some cases of strangulated hernia in which there is so little appearance externally, that patients have been suffered to go on in that state without any operation being performed, or the disease suspected till it terminated fatally, as was the case with a patient in this hospital, who was supposed by the physician to have the iliac passion, the symptoms being exactly the same: this man died. On opening the cavity of the abdomen, no tumor appeared externally; there was inflammation within, and a small portion of the intestine going into the orifice of the sac, half of which was situated above the ring, in which portion a small fold of intestine was contained, and therefore had escaped notice; however it was sufficient to occasion the death of the patient. Mr. Else examined the patient, and found a little fulness, but no appearance of strangulation. On examining the body, there was found a hernial sac on the right side, similar to that on the left, with a very small fold of intestine situated in the transversalis abdominis. This shews the necessity of a cautious examination of all patients who have the symptoms of iliac passion: every part where a hernia can exist should be carefully examined, and if there is one, we must proceed accordingly. If a patient has a hernia, and if apparently returned, the application of a truss should give him great pain, it should be discontinued. The patient should wear a truss after the operation, as the sides of the sac seldom adhere, and the descent is generally easier than before.

Crural hernia.—The situation of the sac in this species of hernia is immediately under Poupart's ligament, a little to the inner side of the large vessels (epigastric and iliac), passing down at the anterior side of the femoral artery: when the sac is somewhat enlarged, it is found extending over the femoral artery. This hernia is usually very small, so as only to appear like a lymphatic gland a little enlarged, and thus is difficult to discover; for posteriorly it is covered by muscles which will not easily yield, and anteriorly by a strong inelastic fascia, which is binding it down. When it arrives at any considerable extent, it must be from the pressure existing for a long time. Hernia situated in this part is discoverable by the usual appearances of hernia in other places; as pressing the tumor, and desiring the patient to cough, when it gives an undulating stroke. In a case of this kind, if reducible, it should be returned. The patient should be laid in a horizontal position, the pelvis raised, the thigh of that side drawn up towards the abdomen, and the knee turned a little outwards, which relaxes the fascia. When returned, a truss may be applied immediately over the orifice; and as that will be situated very near to the orifice of the scrotal hernia, the pad of the truss should be applied to the same part—viz. just where the epigastric is coming off. When irreducible, little can be done. It is a part very unfavourable to make a moderate degree of pressure to prevent its increase; if you cannot reduce it, you cannot apply a truss, and you have not, in this instance, an opportunity of examining what the contents are, as in herniæ of the groin or scrotum.

If this hernia becomes strangulated, the symptoms will be as in others; and when other means have proved ineffectual, the operation should be proposed, which is attended with a great deal of nicety, from the situation of the vessels, the danger of wounding the epigastric artery in females, and both the spermatic and epigastric in males.

The external incision should be made in the direction of the tumor as far as it extends, beginning a little above Poupart's ligament and extending quite to the inferior part, a little obliquely inward to the inner part of the thigh; carrying it carefully through the fascia, which will be found covering the hernial sac. We next open the hernial sac with very great caution, for fear of wounding the intestine. A very small aperture is to be made into the inferior part, laying open the hernial sac up to Poupart's ligament: thus you get a view of the contents. The next attempt is to return the protruded parts; for it generally happens that the edge of Poupart's ligament is so pressing on the sac as to prevent the return, and which occasioned the strangulation; therefore they cannot be returned till the stricture is taken off by dividing Poupart's ligament, which is attended with danger, on account of the vessels as before said; for if you introduce a director, and slit it upwards, the vessels are passing so close underneath that you are in danger of wounding them. You may divide it safely by making a small opening into the

tendon a little above the vessels, in the direction of its fibres; then carry the director down to the under part of the ligament, bring it underneath, whereby we get the director between the ligament and vessels, whence it may be safely divided. If there should be left any fibres below still undivided, the director may be carried under these as before, which will give so much room that the parts may be very easily returned. Having thus divided the ligament, you are to return the hernia into the abdomen. If you find any difficulty, you should introduce the finger into the sac, to ascertain that the orifice is not contracted; if so small that the hernia is not readily reduced, a blunt-pointed knife should be introduced, and the orifice dilated with great caution, for fear of wounding the vessels. The French instrument, invented for dilating the ring, might here be useful, as the part is membranous and not tendinous. The danger in the operation is not so great in the female as in the male, and much oftener required in the former; as Poupart's ligament in females is about an inch longer than in men. Not unfrequently the tumor in this hernia is so small as to remain unnoticed by the patient or surgeon; therefore a patient may pass many years with a crural hernia undiscovered. Symptoms of strangulation may take place, which may be supposed to be only those of the iliac passion; and being treated as such, the intestines not being extricated, the patient will usually die; therefore this is a case of hernia we should examine with the greatest caution. In all cases where there are symptoms of strangulation, though we do not absolutely discover a tumor, yet if the patient complains of pain on pressure in any one part where herniæ are usually situated, we ought to operate, where the symptoms have gone on so far as to require the operation, by making an incision on the part, carefully dissecting down, to see if there is a hernial sac situated there; for the fold of intestine may be so small as not to be felt through the integuments.

Umbilical hernia, or *exomphalos*, is much more common in women and children than in men. In women, frequently from the distension which the abdomen undergoes during pregnancy, the navel, being a weak part, a protrusion takes place there; also in new-born infants, from violent exertions, as crying, &c.;—sometimes in men, but mostly in those who are become very corpulent. In these cases, where the hernia is in a reducible state, a spring truss should be adapted to make pressure on the part; but in children this is very inconvenient, for, by frequently wetting themselves, the spring of the truss soon becomes rusty, and does not perform its office; also they cannot bear the pressure. In such it is more convenient to apply a piece of cork, cut round, and nearly as large as the aperture, dipped in wax; it should be applied on the side of the aperture, so as to press the integuments inwards; over which put some sticking-plaster, of a circular form, so as to make pressure on the part. After a few months this may be left off, when no further protrusion will take place. But in those who are older, this pressure made by sticking-plaster will not be sufficient to resist the action of the muscles; therefore a well-constructed truss will be necessary. In women, these ruptures are often irreducible, from their being apt to conceal them, and adhesions having taken place, and very frequently from omentum, which remaining there a length of time, undergoes an alteration in its figure, so as to prevent its return. In an irreducible hernia a pad should be formed, just to receive the part, merely to prevent its increase. If in this strangulated state, and the usual means are ineffectual, the operation will be necessary, which consists in making an incision throughout half the length of the tumor, or a little more; it may be begun on the upper part of the tumor, and extended downwards. It has been observed in these cases, that there is no hernial sac, which I believe often happens; it being surrounded by little more than a dense cellular membrane.

When the sac is exposed, whether of peritoneum or condensed cellular membrane, it should be carefully dissected through, then carefully dilated towards the orifice, where it communicates with the cavity of the abdomen: having exposed the contents, they should be returned without any further dissection of parts; if the orifice is so tight as to make any firm pressure it should be dilated, which will be best done, not by cutting through the hernial sac, but by introducing a blunt-pointed knife between the sac and surrounding tendon, and dilating it as far as is necessary for reducing the parts. The patient here should also wear a truss some time after the cure. In case of mortification, we should proceed in the same manner as in scrotal hernia. In cases where there should be such firm adhesions as to be inseparable by dissection, we must proceed in the same manner as was recommended in bubonoceles. Mortification not unfrequently takes place in the contents before surgical assistance is called for, particularly in women.

Ventral hernia.—Where a protrusion is formed between some of the tendinous and muscular fibres of the abdomen, it will appear exactly the same as exomphalos, form-

ing a similar tumor, and the treatment will be the same. The form of the tumor is not so regularly rounded as the umbilical, the parts projecting under the integuments, and being of a firmer consistence. In these cases, where the operation is necessary, we have only two parts to attend to, in dilating the orifice where the stricture is formed; these are the epigastric artery and ligamentum rotundum, which last we should avoid dividing—as it is not at all times even in an adult in an unperforated state, sometimes remaining open during life. Therefore, as there are some instances of the umbilical vein remaining, on that account the ligamentum rotundum and umbilical vein should not be divided.

Hernia foraminis ovalis. — Forming a tumor *in perinæo* by the side of the thigh. I have never met with but one case, and that was in Paris; it was about the same size as we usually find the crural hernia. Where it is very small we should not be able to discover it. However, where it is of long continuance the protrusion may become so large, and the tumor also, as to be very evident. Mr. Pott informed me of two cases which came under his inspection, where the tumors were very conspicuous. In a case of this kind, if reducible, a bandage should be contrived to make pressure on the part *in perinæo.* If strangulation should take place, the operation,—which will be performed with greater difficulty on account of the situation of the obturator artery,—the sac being laid bare, should be carefully opened, and the finger carried up to the obturator ligament, which should be very cautiously divided. In this case, I can hardly direct how the ligament should be divided. I should rather suppose that the vessels go to the under side of the sac, as the ligament is situated below; if you divide it downward, you would be liable to wound the obturator artery, therefore before you divide the obturator ligament, you should feel with your finger in different parts, and probably by the pulsation you might discover the situation of the obturator artery, and thereby avoid wounding it.

Hernia cystica is formed by a protrusion of the urinary bladder, and is not a case where there is a probability of strangulation arising, as there could be nothing accumulated but urine, and this by pressure being made on the outside, might be carefully carried back, and the bladder disengaged. Mr. Pott has given two cases of this kind, one in a boy, who had a hernia of this description, with a hard substance, situated within which was a calculus. In this case he made an incision over the tumor; on the projecting portion of the bladder, he made a ligature, thus including the calculus, which portion he cut off*. This preparation I have seen; the stone was about the size of a small walnut. In dissecting this carefully there was an appearance of something like an artery.

Two other herniæ remain to be described, that of the *ischiatic notch* and the one situated *in perinæo*, passing between the vagina and rectum. These are situations, which, from the size of the cavity through which they pass, do not subject the parts to strangulation. If there should be any, you must lay the parts bare, and proceed according to appearances. Having met with no cases of this kind, I cannot direct you.

In books which treat of herniæ it is usual to mention their radical cure, for which several different methods have been proposed. This can only consist in obliterating the hernial sac, or that part of the orifice through which they protrude. This in scrotal hernia has been proposed in various ways; first, by applying caustic to the part: this will be exceedingly hazardous, as we cannot always regulate how far the caustic shall extend; if through the posterior part of the sac, it would probably destroy the spermatic cord. Another mode proposed is that of making a ligature on the hernial sac; but from the close union of the spermatic cord to the posterior part of the sac, it seems impossible to inclose the sac without the cord. In all these operations it has been proposed to do it below the ring, as there is often a large portion of the sac above the ring, in such cases the hernia would not be cured. I believe some empirics, as related by Heister, were in the practice of castrating the patient at the same time. It was proposed once by the Parisian surgeons to cure the hernia radically by performing the operation on patients who had no strangulation, from an idea that by this means the sides of the sac would unite with each other, and the patient have no return of the complaint, but this plan was not successful; the sides of the sac did not unite, and in some cases the patients died, hence the practice was soon discontinued. So far as has hitherto been done, no such mode of curing the complaint can be adopted with any propriety. The only mode of producing a radical cure would be wearing the truss for a considerable length of time, so as to obliterate the opening, or so far diminish it as for nothing further to descend.

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* *Vide* Pott's Works, by Sir J. Earle, vol. ii., page 127.—C.

CLINICAL LECTURES ON MEDICINE,

Delivered at the Meath Hospital, Dublin,

Session 1837-8,

By Professor Graves.

Lecture III.

Case of Typhus Fever with general Bronchitis—Treatment in first stage; in second—Apparent Anomalies in this Treatment—Morbid Anatomy often studied in a wrong manner.—Observations on the Causes of Pectoral Symptoms in Fever; on the latent Period of Morbid Poisons; on Double Diseases; on Hereditary Diseases.

Gentlemen,—Allow me to call your attention to the case of Mary Lynch, admitted on the 16th of November, labouring under well-marked *typhus*. She is a servant, married, 38 years of age, of a full habit and sanguine temperament. About eight days before admission, she was attacked with symptoms of fever, accompanied by pains in the loins, shoulders, sternum, and left mamma, so violent as to interfere with respiration; she had also tenderness of the abdomen, particularly at the epigastric region, frequent eructations, vomiting, urgent thirst, harassing cough with viscid sputa, and total loss of rest. About the seventh day, maculæ, of a bright red hue, some large, some smaller, and clustered like measles, made their appearance in great abundance. As the belly was full and tender, she got mild aperient medicine, and it was leeched.

On the evening of the 19th she appeared much worse, lying on her back, moaning, unable to move without assistance, her face flushed, skin of a burning heat, and eyes much suffused; her tongue was furred, pulse 130 and weak, and respiration laboured—about 40 in a minute. No dulness on percussion existed, but loud, sonorous, and sibilous râles were heard all over the chest, particularly in the anterior regions. It was clear, therefore, that our patient had two distinct diseases—spotted fever and bronchitis: the former had commenced with symptoms of unusual violence, and the latter was of a formidable nature, engaging a vast number of the smaller bronchial tubes, and interfering most unfavourably with the breathing. In short, gentlemen, we seemed called upon to treat, in the same individual, two affections of opposite characters—the one inflammatory, and requiring antiphlogistic measures—the other exhibiting a strong tendency to putrescence, and, at the actual stage of her illness, rapidly giving rise to sinking and exhaustion.

Emergencies of this kind require much deliberation, and are calculated to excite strong feelings of embarrassment and doubt in the mind of the practitioner, for he possesses no general rule to direct—no theory to indicate the treatment. Under such circumstances, how happy do we feel if enabled to call to mind some case of a similar description, where we had observed the effects of treatment with anxiety, and noted them with due accuracy; how cheeringly does the light of the past then dispel the obscurity of the present; and how thankfully do we accept the guidance of recorded facts, without whose aid all would be uncertainty and confusion!

Were we, in treating our patient, to direct our attention chiefly to the extensive bronchitis, and prescribe cupping, leeches, blisters, calomel, squills, digitalis, or ipecacuanha? or were we to strive rather against the general than the pectoral ailment? The following considerations seemed capable of affording a solution of these difficulties. In the first place, we had to attach a proper degree of importance to the period of her disease: the spotted fever had already lasted eleven days, after which the symptoms of reaction usually begin to decline, and are followed by a rapid and alarming prostration of strength, requiring the administration of stimulating medicines and a more nutritious food. But here the question occurred, would not nourishment and wine increase the bronchial inflammation, and might they not augment the amount of local disease, by inducing pulmonary congestion, or even pneumonia?

Dr. Stokes, who, during my temporary absence, had the charge of this patient, evinced his usual skill and judgment, and justly regarding the fever the principal disease, he determined to give wine and chicken-broth, with a mixture containing carbonate of ammonia. She got one bottle of port-wine in the course of the next twenty-four hours; while an attempt was made to relieve the chest by dry-cupping, blisters, and small doses of hyoscyamus and ipecacuanha. The same medicines were continued on the succeeding day, but the wine was diminished about one-fourth. Let us now examine this patient, and ascertain what effects have been produced by this treatment, now continued forty-eight hours. You observe, gentlemen, a striking improvement: the fever has a much less threatening aspect, the maculæ have nearly disappeared, the tongue become much cleaner, skin more natural, belly soft, sleep tranquil, and the pulse has nearly fallen to its normal frequency. Such is the result of the treatment, as far as the fever is concerned; but what changes has the bronchitis undergone? Here the effect produced is most satisfactory, for, so far from increasing under

the use of wine, moderate nourishment, and carbonate of ammonia, the bronchial inflammation has notably subsided, — the woman's breathing is now comparatively free and calm, and she is less troubled with cough, while the sonorous and sibilous râles are rapidly becoming less distinct. It is our intention to continue the wine and ammonia, but in daily diminishing quantity, and I have no doubt that our patient will soon be able to do without them entirely *.

This case is well deserving of a more careful analysis. With respect to the fever, it was evidently accompanied, in its accession and first stage, by active congestion of the gastro-intestinal and bronchial mucous membrane. Had we been consulted during the rigors, or the first six hours, a bold use of the lancet would have cut short the disease; on the second day, at least during the first half of it, venesection would have been required, but in smaller quantity, and with the effect, not of stopping the fever, but of moderating all the most prominent and distressing symptoms; for the next two days, leeches to the epigastrium and sternum, frequently applied, six at a time, would have powerfully contributed to produce a more natural state of the gastric and bronchial mucous membrane: unhappily the case was neglected before its admission into our ward, and then we were unable to proceed boldly with depletory measures, as the maculæ were very abundant and the fever had arrived at its ninth day. But here some one will observe, inflammation of a mucous membrane must be treated on the same principles, no matter whether it occurs in the commencement, the *acmé*, or the decline of fever: in every case it must be met by depletory measures, modified, indeed, as to their activity, by the period of the disease and the strength of the patient; *but still depletory they must be;* and in no case are stimulants allowable — in no case wine and nourishment admissible. Gentlemen, there seems to be much that is reasonable in these observations, and they obtain additional confirmation from the testimony of those who assure us, that in persons affected with typhus accompanied with pectoral and abdominal symptoms, such as we witnessed in Mary Lynch, and in whom the disease proves fatal, the post-mortem examination always exhibits indubitable evidence of inflammation affecting the mucous membranes in question; but I must confess that I am more inclined to rely on the effects of remedies as a test of the true nature of diseases, than on the evidence derived from post-mortem examinations. The manner in which a living tissue conducts itself when acted on by food or medicine, is with me of greater value in determining the nature of a disease affecting that tissue, than any appearances observable in it after death. Suppose that Lynch had died just as we had ordered the wine, broth, and carbonate of ammonia, and suppose her chest and abdomen examined in a few hours after, then I have no doubt that appearances enough would have been detected in the stomach and bronchial tubes to convince you of the existence of mucous inflammation, and you would have been apparently justified in strongly condemning our practice. This I say advisedly, and with what intention? To decry the utility of morbid anatomy? Certainly not. I cannot, indeed, now discuss the general question as to the manner in which morbid anatomy should be prosecuted, in order to render it useful to practical men; but this much I may be permitted to remark, that in the hands of some of its most zealous cultivators, it has degenerated into a system in which the facts discovered have not been arranged and valued according to their obvious bearings, but have been made the foundation of much useless pathological mystification; in truth, it is my fixed opinion, founded on no small opportunities of observation, that in fever especially much error and uncertainty still attend the interpretation (if that expression may be used) of *post-mortem* appearances, and consequently great mischief has resulted from rules of practice derived rather from the dead-room than from the clinical ward.

But to return to our patient. Her case teaches you how, in the progress of typhus fever, the state of the mucous membrane of the stomach and bowels alters, and how its vital energies vary as the disease advances; for we see wine required,—we see it borne,—nay, useful, not only to the system at large, but to the alimentary mucous membrane in particular, on the eleventh day of fever, in a case where it would have been injurious, perhaps destructive, at an earlier stage; and mark, that it was thus useful, *even although all the symptoms which might be justly considered as contraindicating its exhibition had not entirely disappeared!* We learn from this that our feeble powers are incapable of appreciating the meaning, the intensity, or even, in every case, the identity of particular symptoms. We must, therefore, never sacrifice general views to individual indications, and, in fever especially, *we must study the whole man, and not any particular organ.*

I have long ago advocated the opinion that we may have bronchial râles generally diffused throughout the chest in fever, and yet the existing affection may not after all be true bronchitis. This opinion I put forward about seven or eight years ago in my lectures, but it did not attract the

* This patient perfectly recovered, to the no small astonishment of two foreign physicians, who were somewhat tinged with *Broussaism*.

attention which I think it deserves. I have over and over again seen fever patients, apparently labouring under all the physical symptoms of general bronchitis, with universal sonorous and sibilous râles, impeded respiration and cough, and yet, if a crisis came on, and a favourable turn in the general state of the patient took place, I have seen all the symptoms of pulmonary derangement disappear in the course of a few hours without any treatment. The present form of fever is not a good one for observing this remarkable change, but in the fever of 1826 we witnessed it frequently. A patient in the morning, labouring under a threatening array of apparently intense pulmonary symptoms, might be seen in the evening with diminished pulse, calm respiration, and scarcely a trace of cough. This convinced me that true bronchitis is not present in every case of typhus, where you have difficult respiration, cough, and sonorous and sibilous râles. Recollect what the effects of fever are on the general system. It renders the skin hot and dry, furs the tongue, parches the fauces, and alters the secretion of the intestinal canal, giving rise to constipation or purging. The digestive tube is generally in an unnatural state, and it is very probable that fever not only deranges the state of the skin, but also of the mucous membrane of the mouth, nose, throat, and alimentary canal. It likewise alters the secretion of the liver and of the kidneys; if the skin is altered in its physical characters, if its secretions are suppressed, and its temperature changed under the influence of febrile disturbance, surely it is not irrational to suppose that the mucous membrane of the bronchial tubes may be also changed in its physical properties, and that its surface may become unnaturally moist or dry, and its tissue engorged. Now, where the derangement extends to the bronchial tubes, we have some of the physical changes produced which accompany ordinary bronchitis, and consequently, *in cases of this kind*, we have cough, sonorous or sibilous râles, difficult respiration, and imperfect aeration of the blood, with purplish suffusion of the face; but this state differs from genuine inflammation in some respects, and in none more remarkably than in its mode of terminating. What happened in the fever of 1826? When a crisis arrived, in the course of two or three hours, the skin became soft and moist, the patient expectorated freely, and every symptom of cutaneous or bronchial derangement rapidly disappeared. In typhus, it is true, genuine bronchitis often occurs as a complication, and is to be treated as such; but it frequently happens that you will have to treat disturbance of the respiratory system, accompanied by cough, impeded respiration, imperfect aeration of blood, and sonorous and sibilous râles, in fact, with a train of symptoms producing as much distress to the patient, and alarm to the physician, as if it was an attack of genuine bronchitis. This view of the subject explains a good deal of the apparent incompatibility of our treatment with the phenomena of the case before us. I do not mean to assert that it was wholly free from real bronchial inflammation, but I think I am authorized in saying that there is a state of the mucous membrane of the lung, in fever, characterized by cough, bronchitic râles, impeded respiration, and undue aeration of the blood; the essence of which is not true inflammatory action, but an altered vital condition, whose nature has not hitherto attracted the attention it deserves. If this be true, gentlemen, you perceive that as fever has in itself a tendency so to derange the bronchial mucous membrane as to reduce it to a state nearly allied to the inflammatory, this very tendency must, on the one hand, facilitate the production of true bronchitis in fever, and on the other, it must render the cure of true bronchitis more difficult.

While on the subject of pathology, allow me to notice one very important fact. In several instances I have observed that certain diseases, which seemed to have been lurking in the constitution, may suddenly make their appearance in consequence of the operation of causes apparently unconnected with the disease in question. This is not unfrequently observed in patients who have contracted syphilis,—have had genuine chancre, and received into the system a poison which will sooner or later manifest itself in the form of constitutional disease. A person in this state exposes himself to cold—gets an attack of shivering, followed by catarrhal fever, and next day, or the day after, the constitutional symptoms of syphilis appear. This, in some cases, appears very extraordinary to the patient himself. He had taken mercury, in all probability, irregularly and improperly;—thinks himself quite well, and now he is suddenly attacked with secondary symptoms. I have witnessed several cases of bad secondary venereal, in which the attack was traced to excessive fatigue, or a common cold. You will also meet numerous examples of an analogous fact among fever patients: examine them, and you will learn that, in a majority of cases, their disease arose from exposure to cold. One person fatigues himself by too much exertion in business, and gets an attack of spotted fever; another attributes his disease to over-anxiety; some to intemperance; and some to fright. In all these cases, it is very probable that the poison of fever has been

lurking for some time in the system, and has then been called into active existence by the operation of some sudden acccidental cause—as fright, fatigue, intemperance, or cold. The same thing is seen in other diseases of a very different character.

Some time ago I attended, with Dr. O'Beirne and Mr. O'Flaherty, a young gentleman residing at the north side of the city, who, previously, had received an injury of the hand; after the accident, every thing appeared to be going on well, until one day he happened to be exposed to the inclemency of the weather, while in a state of exhaustion from too much exercise. He got a violent cold, which, in a few hours, was followed by all the symptoms of well-marked tetanus, of which he subsequently died. Here you perceive exposure to wet was followed by symptoms of feverish cold, and this, in its turn, called into active operation the disposition of tetanus, which lay, as it were, dormant in his system. I recollect another case of an analogous description, which occurred here soon after the battle of Waterloo. An officer of the 95th, or Rifle Brigade, happened to be bitten by a dog, of which, however, he took no notice, and the wound healed up kindly. He went home to see his family some time afterwards, and appeared in excellent health and spirits. It happened at this time his father was making gome improvements in his demesne, and this young gentleman, who took much interest in them, was constantly engaged with the workmen. One day he fatigued himself greatly in cutting the roots of trees, and on the same night he was attacked with all the symptoms of hydrophobia. Here we have an instance of a fatal disease called into sudden activity by the influence of fatigue. Something similar is frequently observed in the case of Irish labourers, employed during the summer and autumn among the fens of Lincolnshire. During their stay in England they appear free from disease, but on their return home, if they happen to be exposed to wet, fatigue, or the derangements of health consequent on intemperance, they are very often seized with intermittent fever.

These facts seem to lead to the conclusion that poisons or morbid causes, capable of producing acute or chronic diseases, may remain latent in the human system for a very considerable period of time, and then be called into active operation by affections which, in many instances, appear to have little or no natural connexion with the diseases they usher in. A question here arises, whether, in many of these cases, the poison might not have remained dormant in the system, and its effects have passed away without ever manifesting themselves, had not the exciting cause come into play? May it not happen that persons said to have been bitten by mad dogs have escaped in this way?—does it not often happen that many of us escape fever, although exposed to its contagion month after month?—do we not go on for years untouched, although subject every day to the imbibition of the poison?—and do we not, rendered bold by our impunity, consider ourselves, as it were, fever-proof, until some accidental cause convinces us of the contrary, by giving rise to a sudden and violent attack? Who is there that has not observed this repeatedly among the students attending a fever hospital? Now it would be interesting to know whether this holds good with regard to syphilis, and whether a person whose constitution has been tainted by the venereal poison, may not occasionally escape secondary symptoms if wholly withdrawn from all the usual exciting causes, such as cold, fatigue, intemperance, irregularity of life, and the like. I am persuaded that, in some diseases, particulary of an acute character, the poison may be taken in doses too small to produce the disease, without the aid of some accessory cause. The question is, can we come to the same conclusion with regard to chronic affections? Can not gout, scrofula, hereditary epilepsy, hereditary insanity, remain dormant in the system without ever appearing, if the patient be kept from all the ordinary exciting causes? May constitutions be infected with the poison of venereal from true chancre, and, by means of regular habits and temperance, occasionally escape secondary symptoms altogether? On a future occasion, when we come to consider the general pathology and treatment of syphilis, we shall resume the consideration of this interesting question.

There is another subject of much importance, on which I purpose to make a few remarks. I allude to what may be termed double diseases, or that state of the system in which two morbid causes are simultaneously in play. You will recollect I commenced with an example of this state, viz. the co-existence of bronchitis and fever; but there are many other diseases which may not only exist singly, but also in conjunction with others. Thus, to take an example from the class of cutaneous diseases, we may have syphilis and scabies, measles and small-pox, co-existing. We may also have measles and hooping-cough, mercurial erythema and syphilis; or we may have the constitution labouring, at the same time, under the combined operation of syphilis, scrofula, and mercury. In the same way you may have gout or rheumatism co-existing with other constitutional affections, or with local affections of various parts of the body. One of the complications of gout to which I directed the attention of the pro-

fession, in a lecture published some years since, is bronchitis. Dr. Wm. Stokes, in adverting to this complication, in his admirable essay on Bronchitis, has very properly observed that the effects of gout on local diseases have not been studied with sufficient attention. While on this subject, I shall mention a curious fact connected with the relation which gout bears to bronchitis. A young gentleman, aged 13, labouring under asthma of a very violent description, accompanied by bronchitis, was placed under my care. I employed numerous remedies for the relief of the asthma and bronchitis, but with little or no effect. Asthma is a disease of a very uncertain nature, and depending on a variety of causes; hence there is no affection which requires so many different and even opposite modes of treatment. I tried every thing from which I expected to derive the least benefit, but without success. Let me observe here that both this young gentleman's parents were gouty. About three weeks ago, shortly after his arrival in Dublin, while labouring under asthma in a very violent degree, sitting up in bed half the night, with loud wheezing, alarming dyspnœa, and great distress he was suddenly attacked with an acute fit of gout in the foot: he got, in fact, as regular an attack of podagra as ever I witnessed, which, having affected one foot and toe for some days, then attacked the other. From this time, however, the bronchitis and asthma wholly disappeared. He recovered in about threee weeks from the gouty affection, and has remained quite well ever since. [This young gentleman continued free from asthma or bronchitis during the whole of the severe winter that succeeded, and is in good health at the present date, the 18th June, 1838.]

I lately saw a gentleman in whom the gouty inflammation subsided too quickly in the foot, and transfered itself to the pharynx and larynx, occasioning a constant hawking up of frothy mucus from the irritated throat, and a dry laryngeal cough, which gave him no respite night nor day. As long as this strange attack lasted the patient's condition was truly miserable; the irritation ceased as unexpectedly as it had commenced. Another fact connected with gout ought not to be passed over in silence. About five years ago, I saw a lady of an extremely advanced age, and whose father had died of hereditary gout; the lady in question never had any appearance of gout until she had attained the age of 82, when podagra first seized her violently, and visited her at least twice annually until her death. Now this case leads to many interesting reflections, and has an important bearing upon the curious but well-ascertained fact, that hereditary diseases often pass by one generation to reappear in the following. Had this lady died before the age of 82, her children would have believed her to have been free from the hereditary taint, and would have wondered how the gout of the grandfather could have re-appeared in them, having spared their mother. This case justifies us, therefore, in concluding that the hereditary tendency exists in the generation which is spared, but is either not strong enough to start into action without the concurrence of certain favouring causes (which may not be present throughout the life of the individual), or is counteracted by other and opposing tendencies in the constitution.

CASE OF STRANGULATED MESENTERIC HERNIA.

To the Editor of the Medical Gazette.

Sir,

Inclosed is a case of intestinal obstruction, which I believe to be of rare occurrence. The insertion of it, if you should deem it worthy, in your much respected journal, will greatly oblige, sir,

Your obedient servant,

Robert Ranking.

Hastings, Sussex,
Oct. 1838.

H. P., Esq., a gentleman, aged 66, of robust frame and temperate habits, was seen by me for the first time during this, his fatal illness, on the night of Tuesday, the 24th of July last.

Previously to this period his health has been so good as to dispense with medical advice, with the exception of an attack of enteritis nine years since.

He was much addicted to bodily labour, and employed himself daily in his garden the greater part of the day. On the above-mentioned day he had been engaged chiefly in removing earth in a hand basket, and as usual gave up work at 1 o'clock, to dress for dinner. At this time he drank a glass of beer, which, according to his own expression, fermented in his stomach, and was soon rejected. He, however, ate his dinner, but was not able to retain it. He at this time complained of some uneasiness in his bowels, but not sufficient to prevent his resuming his labour. This second exertion appeared to fatigue him, and he returned to the house with a recurrence of the uneasiness and vomiting. This subsided in the course of the evening, and he retired to rest feeling much relieved. I saw him at 11 o'clock,

P.M., and found him in bed. He expressed regret that I should have "taken the trouble to visit him, as he was much better." He did not complain of any pain; his countenance was natural, and pulse quiet and regular. The bowels had not been relieved that day, but had acted freely twice the day before, and were usually regular.

Considering that his symptoms arose from the presence of some irritating substance in the bowels, I gave him two calomel and opium pills, and a common black draught to be taken in the morning.

I visited him the next morning, and found that he had breakfasted, and that he felt, according to his own statement, nearly as well as ever. The medicine had not acted, but he expressed his belief that it soon would do so. After a conversation on indifferent subjects, he walked with me to the end of his garden, and begged I would not call again unless he should send. I therefore did not see him again till Thursday, the 26th, about 2 P.M., when I received a hurried message that he had been seized with a recurrence of severe vomiting, attended with constant hiccup. I found the vomiting and hiccup incessant; the abdomen tumid, but without pain, even on severe pressure; tongue white; pulse 66, feeble and soft; countenance cheerful. There had been no evacuation from the bowels since the first attack of sickness.

As the case now assumed a serious aspect, I examined carefully for an explanation of the symptoms. No hernia could be detected.

I immediately threw up a copious injection of gruel, with Ol. Ricini and Sp. Terebinth., which was quickly returned. I then directed the abdomen to be fomented, and covered with a mustard poultice, and gave him calomel and Ol. Ricini.

I saw him again that evening, and

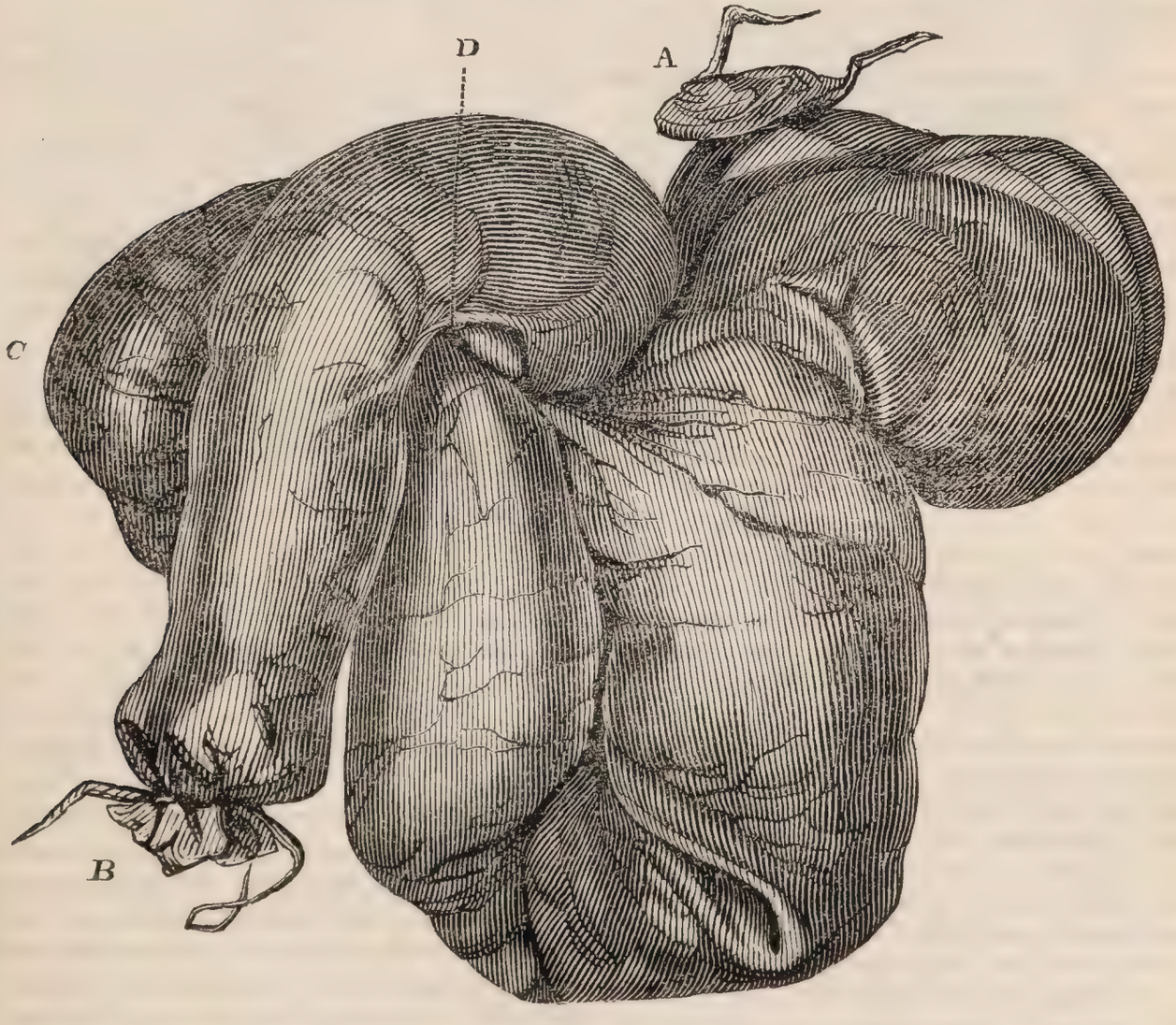

FIG. 1.

A. Portion of ileum above the stricture.
B. Ditto below ditto.
C. Loop of intestine which has passed through the laceration, and become strangulated at D.

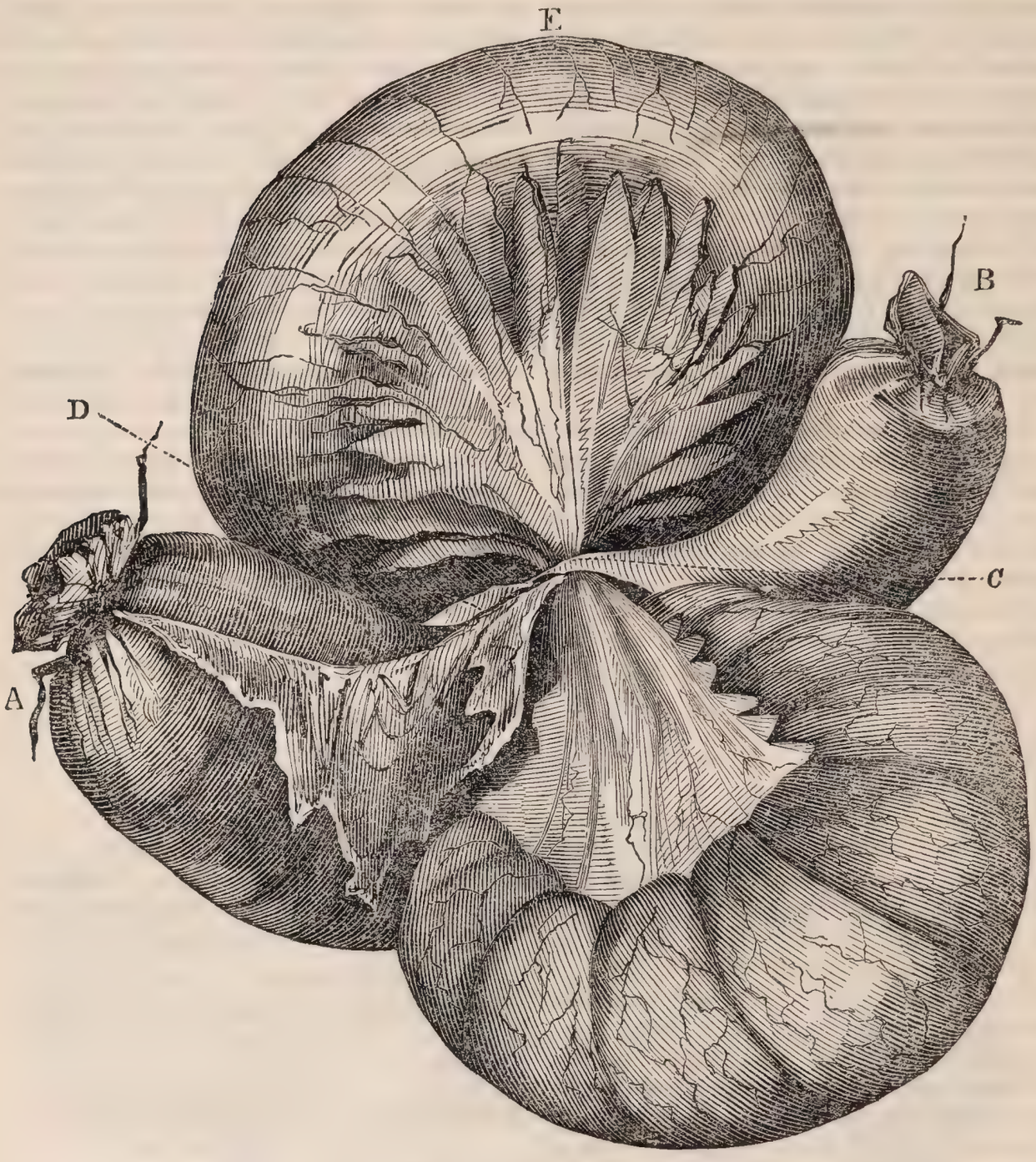

FIG. 2.

A. B. as in fig. 1.
C. Band of mesentery forming the strangulation.
D. Portion of the intestine B, strangulated at point C, and continuous with
E. Loop of intestine passing through the laceration.

found him much in the same state. No stool; abdomen tumid; no pain on pressure; pulse regular, soft, but feeble; vomiting and hiccup very severe. The same measures were continued, with the addition of drachm doses of the tartrate of soda in effervescence every two hours.

Friday.—Some abatement of sickness, otherwise in the same state. I again carefully pressed the whole abdomen, without causing the slightest pain. The injections were repeated, but were always checked after a certain quantity had been thrown up, when they were immediately returned. Night arrived without the slightest relief being afforded. I visited him early on Saturday, the 28th, and found all the symptoms greatly aggravated; the vomiting was now evidently stercoraceous; hiccup distressing; body cool, and bedewed with clammy perspiration; pulse feeble. Still no pain. He was placed in a warm bath, and took small doses of Ol. Ricini, Sp. Terebinth. and Tr. Opii, every three hours: he was cheerful and confident of recovery at this time; but began to sink very suddenly, and died at 2 P.M.

Post mortem.—The body was examined 42 hours after death. Decomposition far advanced, especially over the abdominal region. Head not examined. *Thorax.*—Adhesions of ancient date at the porterior portion of the left lung. the right side perfectly free; lungs themselves quite healthy; no fluid in pericardium; heart dilated in all its cavities, very flabby and much decomposed; some ossific patches in the arch of the aorta. *Abdomen.* — Liver healthy; air infiltrated beneath its peritoneal coat, on its convex surface; gall bladder much distended by black viscid bile. Stomach of natural size; all its textures softened. Small intestines greatly distended; their coats softened, and of a dark colour; their vessels considerably injected. About half a pint of turbid serum in the peritoneal sac. The mesentery was so exceedingly soft that the mere act of raising the intestines was sufficient to rupture it. Much of this probably depended upon the advanced stage of decomposition. As yet we had not found sufficient cause for the symptoms; but upon tracing the intestines, we found at the lower third of the ileum a peculiar and complete strangulation. I removed the part for more patient investigation than I could at this time devote to it.

I found that the mesentery had been separated from its attachment to the under surface of the bowel for the space of an inch and a half. The loop thus formed was further diminished by the intestine taking a turn upon itself, so as to convert the loop into a figure of 8. Through one of these smaller loops a knuckle of intestines, six inches long, had passed, and become tightly strangulated. There were thus two distinct points of strangulation; one formed by the twisting of the intestine upon itself, the other by the passage of the knuckle of intestine through the loop. Both strangulations were so perfect that air could not be made to traverse them without great difficulty. The edges of this laceration of the mesentery were smooth, and did not exhibit any trace of effusion of blood. The intestines below the stricture were closely contracted and empty. Other abdominal viscera healthy.

The symptoms of this case were evidently dependent upon complete obstruction of the intestinal tube. The first attention was naturally directed towards the discovery of a hernia. No displacement, however, could be perceived upon the most rigorous examination, and I was therefore driven to expect the next most probable cause for the symptoms, viz. intus-susceptio. The real state of the case certainly did not occur to my mind. I am not able to find any record of a similar kind of obstruction; the nearest approach to it being mesenteric herniæ, caused by the separation of one layer of the mesentery. One or two cases of this kind are mentioned, I believe, by Sir A. Cooper.

One remarkable feature in the case was the total absence of pain and all the usual symptoms of inflammation of the bowels, which the post-mortem appearances shewed to have existed to a great extent. Mortification had not ensued in any portion of the intestine; the greater part was softened and highly injected. That death took place antecedently to the occurrence of mortification was probably due to the feeble state of the heart, which was greatly dilated, and so much softened as readily to be perforated by the finger.

It is evident that no treatment whatever could have been successful, even had the true cause been known. The case, however, is instructive, inasmuch as it tends to extend the diagnostic history of intestinal obstruction.

TREACLE AS A DRESSING FOR BURNS.

To the Editor of the Medical Gazette.

Sir,

I have read with great pleasure a paper by Dr. Greenhow, of North Shields, in last week's Gazette, on a new method of treating burns, and was forcibly struck with the coincidence of his practice and my own for several years past, varying only in the nature of the composition used. The want of uniform rules and safe means for the alleviation of human suffering in any case is a lamentable proof of the unsettled state of medical science, and there is no better example of this condition than in the treatment of burns and scalds, which has been for the most part empirical. Every person has his own peculiar practice, and emphatically speaks of its success: while "one person (as Dr. Greenhow observes) has advocated the use of cold and sedative applications,

another has extolled the efficacy of stimulating ones; and although, doubtless, much depends on the nature and extent of the injury, nevertheless there seems to be a want of some sound principle of practice, which, when once established, might be modified according to the exigencies of each individual case."

Raw cotton, sugar, and meal, flour, linseed oil, and lime water, spirits of wine and terebinthinate applications, have each had their separate votaries and zealous adherents, and yet none have stood the test of general experience. Professor Velpeau has divided burns into four stages: "first, simple rubefaction; second, vesication; third, destruction of the rete mucosum and first layer of true skin; and fourth, where a part of the whole layer of the skin is converted into an eschar." In addition to these, Baron Dupuytren, in the "Leçons Orales," which were published in the Medical Gazette, vol. xiii. page 410, very properly recognises a fifth and sixth stage, where the muscles and tendons are burned, and vitality partially or totally destroyed. M. Velpeau's practice consists in applying strips of diachylon plaster around the injured limb in all the four stages of burns, after the manner recommended by Baynton, in the treatment of ulcers, removing them only at stated intervals, according to the exigencies of the case, which, by making a gentle and uniform pressure on the injured limb, and excluding the atmospheric air, materially diminishes suppuration, and in some cases entirely prevents it. Dr. Greenhow's plan consists in melting over the fire the Ung. Resin. flav. cum Ol. Tereb., and applying with a brush or bunch of feathers the composition so heated over the affected part, so as to form a complete coating over the burnt surface; and this practice, he states, has been signally successful in preventing suppuration, and in preventing the bridles which form during cicatrization, and disfigurement of the countenance. Now, in the first and second stages of burns and scalds I prefer the external use of treacle, which, from its simplicity, readiness of access, comparatively little expense, and almost uniform success, cannot fail to recommend itself to every one. Before trying the use of treacle I had attempted cold water and spirituous dressings, protected with oiled silk, linseed oil, and lime water, but frequently failed in preventing the smarting burning pain arising from the sensitive state of the cutaneous nerves, till it occurred to me that treacle, being a tenacious, plastic, refrigerant liquid, when pure, would effectually exclude atmospherical air, whilst it would astringe and cool the inflamed part. The last case I used it in was attended with marked success; since then I have tried it in 65 cases, and with variable effects. Three things are necessary in its employment: first, that it should be free from sand, splinters of wood, and dirty water, with some of which it is commonly adulterated; secondly, that it should be spread upon fine bleached calico without any asperities from uneven threads; and thirdly, that it should be cold. When used in this way I have frequently seen the most agonizing pain immediately cease, and turgescence of the inflamed skin diminish. In mild cases one dressing will suffice. Where vesication is large and extensive I have frequently evacuated the contents by means of a fine pointed needle, avoiding laceration of the detached skin; but oftener prefer a thick coating of the treacle upon the part, and afterwards enveloped with cat [?] paper, which, from the delicacy of its structure, will sooner tear than suffer the raised epidermis to be detached. In common cases, where the burn is slight, I spread the treacle upon fine calico, and apply it after M. Velpeau's plan around the affected part. Where calico of the description mentioned is not to be obtained, I use paper with similar results.

Where destruction of the skin has taken place, and the part has become a sore, I have thought treacle promoted suppuration and retarded the cure: in these cases I have used the Ung. Plumb. C. of the new Pharmacopœia, after M. Velpeau's plan, with great advantage. When the burn is of the fifth and sixth kind of Baron Dupuytren, I first detach the eschar with spirits of turpentine and charcoal formed into poultice, and repeated till the line of demarcation sets in, when I use the plaster as in the fourth kind, and give internally the Inf. Sarsap.; and should there be no energy in the part to granulate, or throw off the slough, the Potassæ Hydriod. has been of essential service. When an ulcer of large size forms after the slough has separated, the mucous surface of the alimentary canal sympathizes, and the mucous follicles of the large intes-

tines become inflamed, and if not judiciously attended to, soon ulcerate. Two fatal instances have latterly occurred in my practice, which fully verify this conclusion. In such cases, after seeing the bowels are divested of scybala, should ulceration have commenced, I have found small doses of ipecacuanha, mucilage of acacia, and nitre, with the free use of the superacetate of lead and opium, in the proportion of three grains of the former to one of the latter, very beneficial. Burns occasionally happen to persons labouring under eruptive diseases, which prove a formidable obstacle to the cure, and often defy the best judgment. In such cases, after the inflamed skin has subsided, and the part is suffering more from the eruptive disorder than the burn, I apply the hypo-chloride of sulphur ointment, and give internally Plummer's pills, which seldom fail after a fair trial. In conclusion, when suppuration can be prevented it is very desirable; and I have seen some rare cases, where the injury appeared very great, get well in the course of a few days, under the treacle dressings, when aided by a sound constitution. The practice certainly bears great analogy to that of Dr. Greenhow's, and I have found it to supersede any other which I have tried; but after very extensive observations and practice, in candour I must confess I am not so sanguine in the invariabel results as Dr. Greenhow appears to be; nevertheless, I recommend it as a means which ought not to be lost sight of by those who have frequent opportunities of witnessing these accidents, and one which will succeed in eight cases out of ten. Should the preceding remarks meet your approbation, an insertion in your excellent journal would be deemed a favour by, sir,

Your obedient servant,
Jesse Leach, M.R.C.S. &c.

Heywood, Oct. 21, 1838.

DEATH OF A CHILD FROM FRIGHT OF THE MOTHER.

To the Editor of the Medical Gazette.

Sir,

If you think the inclosed worthy a place in your journal, you can insert it, and believe me, with much respect, a subscriber, and your's truly,

B. Ridge, M.R.C.S.L.

Terrace, Putney, Oct. 16, 1838.

M. H., æt. 37, a laundress of industrious and cleanly habits, and of exceedingly anxious temperament, has had five children, and lost the use of the right mamma, from the nipple sloughing off, when suckling her third child. Was confined with her fifth child, a boy, on the 30th July, 1838, and both mother and child did well. At the end of the fifth week she went with her husband to Deptford, and whilst on the road, the axle-tree of the omnibus they were in broke, which gave her a sudden fright, and some friends who were with her remarked how very pale she became, and continued to be the whole day. She, however, got home safely, and apparently no inconvenience ensued: the child seemed to do as well as before, though the mother noticed how very quiet it was, as did also the women who were accustomed to come to her house to wash; it did not cry as usual during the time of dressing and washing, but became listless, and free from those smiles incidental to children of that age; neither did it seem to require the breast so frequently as before; however, as long as it continued well, nothing was thought of these changes; when on the ninth day after the accident the child had a convulsion, from which it was a long time recovering, and in consequence of that I was sent for. I found it much depressed, listless, and not crying or fractious, as children are when unwell; having frequent curdled stools, sometimes mixed with green, at the same time presenting no other symptom but that of slight disorder in the bowels; the pulse was low and frequent. The chalk mixture with a little camphor julep was administered, and the child the next day appeared better, but the bowels not having been opened, a small powder of hydr. c. creta and rhubarb was given it, and two hours after a tea-spoonful of castor oil; this brought away a large curdled green stool, plentifully mixed with slime. The chalk mixture, &c. administered again; and after this, as the bowels seemed comfortable, no other aperient was given.

On the third day, I remarked to the mother that the child appeared to me to

be starved, and ordered in consequence a gentle stimulating tonic, and the mother to take three or four glasses of port-wine a day, with more nourishing diet. (But I should here state, that the circumstance of her fright was not mentioned to me till after the child's decease.)

The mother said the child had sucked, but only at short intervals, and that she also fed it. I noticed it at the breast: it took a few sucks, and then left off; and then a few more, and so on. At the same time I requested the mother to save me some of her milk, which was done; and my suspicions were verified, for certainly it was very poor: no cream or substance of any kind floating on the surface, but more like the thin milk-and-water-looking secretion that sometimes oozes from the mammæ during utero-gestation. In consequence she was ordered more nourishing things, and an increase of wine. Notwithstanding this, nothing seemed to make an impression on the child, and it died on the fifth day of my attendance, and the fourteenth from the mother's fright.

As I could not account for the child's death, I requested a post-mortem examination, which was readily granted me; and whilst talking concerning the illness and death of her child, the mother said, "Do you think, sir, my fright could have had any thing to do with it?" when she related the circumstance, and which shewed that that alone was the cause,—the child receiving an imperfect nourishment from the mother, its daily allowance gradually reduced, and its own little powers called on to bear against the shock, till they became exhausted.

It no doubt died in consequence of the fright affecting the milk of the mother, and being gradually starved to death; whilst no one was to blame. Medical aid was had directly the first symptom of illness occurred, the apparent cause soon discovered, the child was then sustained by tonics, and the mother by wine and other nourishing things; but the shock had been too great.

The *post-mortem* examination confirmed the fact. The whole alimentary canal was contracted for want of food; very little blood in the large vessels and heart; a small quantity of bile in the gall-bladder; the liver rather pale, but healthy, as likewise all the viscera. The large vessels contained a small portion of yellow fæces, mixed with a few curds; the cæcum a very small portion, but a large secretion of mucus from its lining membrane ready for use. The processus vermiformis, when slit up, presented the same appearance; on which I beg to offer a remark before I close this paper, which struck me at the time. The size and fulness of this process—the unusual quantity of mucus on its lining membrane—the immediate communication with the cæcum;—what can this process be for? Can it be to supply the cæcum with any quantity of mucus, large or small, for the purposes of nature (as that organ is such a reservoir for all digested materials and fæculent matter) after birth, or for assisting in moistening and keeping it in a healthy state during the fœtal life? I certainly have never been able to discover any glandular appearance in it; but still it might be of service to the cæcum, by contributing mucus to the fæculent matters passing through it. The cæcum must very soon after the birth be called into action, and contract very forcibly, to expel the meconium which pours down from the small intestines, and more particularly as some men are so fond of giving castor oil the moment a child is born. However, till a discovery is made of its real use, any opinion, however hazarded, is pardonable, as no one can say directly, "It is not so."

NEGLECT OF MEDICAL EVIDENCE BY CORONERS.

To the Editor of the Medical Gazette.

SIR,

ON the 17th of this month, about six in the evening, I was called to the Cloth Workers' Almshouses in Islington, to attend a woman named Ann Sharp, aged 50, who was stated to be in a dangerous state.

On my arrival I found her lying on her back on a sofa, quite insensible, with a full pulse, the skin warm, breathing laborious, but not so stertorous as is generally found in cases of apoplexy. The woman was described to have been previously very healthy. She had a slender neck and fair skin. I was informed that she had been first attacked at ten A.M. of the same day, having lain

for eight hours without any medical attendance. I immediately bled her to sixteen ounces, ordered her head to be shaved, and vinegar and water applied to the scalp. At nine o'clock, three hours after I saw her, she died. I directed the body not to be disturbed till the coroner's jury had seen it, and kept myself in readiness to make a post-mortem examination. At considerable personal inconvenience I staid at home during the day on which the inquest sat, expecting to be summoned. To my astonishment, and to that of others who heard of the case, no medical evidence was thought necessary.

Now, sir, if inquests are thus managed, the institution of a coroner's court is something like an expensive farce, and the sooner the county is saved the expense of the establishment the better. I give Mr. Wakley every credit for his exertions in procuring the act regarding the medical evidence on coroners' inquests; but unless a compulsory clause is added, respecting medical men, the law is almost a dead letter. I may observe, however, that in all cases of inquests at the Infirmary here, to which I am surgeon, I am uniformly called to give evidence. This is not to be wondered at, considering that no fee is given to the medical officers of public institutions.—I remain, sir,

Your obedient servant,

ROBERT SEMPLE,
Surgeon.

Oct. 24, 1838.

[The abuse detailed in this letter is exactly in keeping with information we have received from various parts of the country. The change made, we believe, during the last session of parliament in the mode of payment, has had the effeet of deterring coroners from calling medical witnesses. Many, we are informed, who on the first passing of Mr. Wakley's bill used to avail themselves of professional evidence, now decline to do so.—ED. GAZ.]

SINGULAR EFFCTS OF PRINTING IN *GOLD*.

To the Editor of the Medical Gazette.

SIR,

SHOULD the accompanying case appear worthy of being recorded, I would beg as a favour its insertion in the Medical Gazette, not being aware that any person as yet has noticed this affection, which may perhaps be as novel as its cause, viz. the printing of "Golden Sun" newspapers!

July 17th, John Oakey, æt. 19, a lad of pale, scrofulous complexion, applied at this institution for relief of a most distressing itching of the scrotum, and was admitted under the care of Mr. Caswall, whom I have to thank for his kindness in permitting me to supply the notes of this case.

On examining the part, it seemed relaxed and inflamed, the sebaceous follicles considerably enlarged, and round the roots of the hairs were small scabs, caused by his scratching the part, to relieve the tingling sensation. The hair on the scrotum and pubes was of a decided grass-green colour, and though the irritation resembled that produced by the pediculus pubis, I could discover none of these vermin or their ova.

On inquiry, the lad referred these symptoms to his occupation at a newspaper office, being engaged in printing the Golden Sun paper—so named from its golden type. It appears this hue is communicated by brushing a fine bronze-coloured powder (composed, according to the workmen's account, of copperas, verdigris, and quicksilver) over the type, which is first printed in yellow ink. This powder is given to those employed in ounce packets, and about forty hands were thus employed, almost all of whom had been forced after a time to give up this work, some keeping at it only two days; others for a week or more; but all suffering more or less from its effects.

The hair on his head and in the axilla was of the same colour, and he complained of itching in these parts, and about the wrists, though in a less degree, and the hair felt peculiarly harsh, dry, and matted.

He stated that on the third day of being thus employed, he had been seized with vomiting of a green-coloured fluid, and a sensation of heat and constriction in the œsophagus, with pain in the stomach, which he referred to swallowing and inhaling portions of the powder diffused through the air of the room: this was followed by epistaxis, recurring at intervals, itching of the before-mentioned parts, more especially of the pubes and scrotum, tenderness of the epigastrium and bowels, accompanied by loss of appetite and

rest. As his bowels were confined, and his stomach irritable, he was ordered,

Pulv. Jalapæ cum Hydrarg. Chlorid. xij. stat. sum. Mist. Effervesc. ℥iss.; c. Mag. Sulph. ℥j. ter indies.

and to relieve the itching, fotus papaveris, with occasional poultices.

His continual scratching (being unable to keep his hand out of his flap for five minutes at a time) had destroyed the character of the eruption so much, as to put it out of my power to state positively what it originally was, but it seemed to have been primarily papular, subsequently assuming a vesicular appearance.

19th.—The eruption has decreased, and the irritation is much relieved, but the hair still retains its green hue; the tenderness of the epigastrium and sickness have left him, his tongue is clean, and he sleeps well at night.

Rep. Pulv. et Mist.

26th.—He returned quite well, but still with the hair on his pubes, scrotum, and head quite green, though gradually fading away. Ordered to continue his medicine, and return in a week, using in the meantime common pomatum to the hair, to soften it and remove its harsh wiry character.

Unfortunately, like too many dispensary patients, being relieved, he never returned to give up his letter, or obtain a letter of thanks to the party who had recommended him, and thus he deprived me of the opportunity of observing how his hair resumed its natural hue (a sandy colour, it seemed to be), as also of giving the termination of his case.

This case having excited my curiosity, I asked and obtained permission to see the process of printing these papers. They are printed with a yellow ink, composed of size and gamboge, and then handed over to men who, with a common hat-brush, distribute the powder over the paper, which adheres to the moist printed portions. About a dozen persons were thus engaged when I visited the office, all of whom complained more or less of the same symptoms. Some added, that this irritating powder had caused deep ulcers on the genitals; others declared it had salivated them to a certain extent; but though their gums appeared slightly spongy, they hardly seemed more so than those of most persons whose stomachs are out of order; and I could not detect any mercurial fœtor.

I wished much to be allowed to have a portion of this powder for chemical examination, but my request could not be granted, as its composition is kept a secret. I was told it was prepared in Germany; it looked like very fine brass filings; the whole air of the room was loaded with it, and my coat glistened, as also did my face and hair, which rivalled in brightness the wig of Caligula, who had recourse to gold-dust to produce the effect I obtained so cheaply.

This case would have been forwarded to you long before this, but unfortunately I had mislaid the notes, and have only now found them. I have referred in vain to the works of Thackrah, Ramazzini, and Patissier, as also to the Dictionnaire des Arts—none mention this mode of gilding, or any similar effects on gilders. Believing it, therefore, to be as new, as this new process of "illuminating" newspapers, I have done myself the pleasure of sending you this very imperfect notice of it, and remain, sir,—Yours, &c. &c.

GURNEY TURNER,
General Dispensary, M.R.C.S., &c.
Oct. 24, 1838.

P.S.—The illuminated letters in Missals were executed, I believe, either in gold ink, prepared by grinding gold leaf with size, or by laying gold leaf in the letter drawn in size, and then removing the superfluous portions. I fancy I remember having seen a work printed in gold letters, containing an account of the coronation of George IV., but do not know how the effect was produced.

MEDICAL GAZETTE.

Saturday, November 3, 1838.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

LONDON UNIVERSITY DEGREES.

ACCORDING to promise we now proceed to comment on the scheme which we published last week from the Report of the Medical Faculty of the London Uni-

versity. Let us first consider the examination which they require a student to have passed, before he can enter into the territory at whose opposite and far distant boundary he may perhaps obtain the object of his ambition—the degree of Doctor of Medicine.

Now there are two principal purposes to which such a preliminary examination may be made subservient: in the one, as a test of respectability; in the other, as a test of intellect. In the former view, such examinations are employed to prevent any one from entering into a society till he has proved himself honourably entitled to associate with its members. In the world at large he is introduced by some members of the society he desires to move in, and the rest, relying on the axiom, "noscitur à sociis," admit him, and entertain him, as long as his conduct is in accordance with their rules. But in professions it is a different matter; the advantages of admission are more tangible and direct; and the delinquencies of an individual member are often less injurious to himself than to the profession at large. Hence it has been found necessary to establish more stringent laws in regard to the admission of new members, even to the right of studying it, with the view of practising; and an additional test of their previous respectability has been required. That which has seemed most advantageous is the test of education, because it affords at the same time evidence, to a certain extent, of a man's pecuniary means, of the respectability of his family, and of his intellectual attainments. Preliminary examinations have generally been based on the knowledge which the student can shew himself to be possessed of in classical literature; and his ability to pass has served to show that he has been educated at a school, to which the sons of those who move in what are called the better ranks of society were in the habit of resorting; and on the whole, this plan has been found sufficient for the purpose.

This is a long preamble, and on a subject which most assuredly we never imagined would be found illustrated in the democratic University of London. The principles upon which that University set out, and upon which it ought, in consistency, to have been conducted, were, that nothing but intellectual fitness for the grade he sought to move in should be demanded of the candidate; that the test of intellect alone should be applied to decide whether any man, be his other qualifications what they might, should be admitted to academic privileges. What! it was urged, is it to be borne that, in the nineteenth century, the march of intellect should be impeded by collegiate monopolies? Shall the poor man have his poverty aggrieved by exclusion from the intellectual advantages for which he is as well fitted and as deserving as his fortuitously richer neighbour? Shall a secondary thing, like religion, (we speak the language of others) still exclude all but those who belong to the more powerful sect from the honours and rewards of talent? Shall the "fetters of the seventeenth century" be still fastened upon us—the freemen of the nineteenth?

Amidst much error and exaggeration, there was something fair in the demand that neither religious nor pecuniary differences should be the cause of a man's exclusion from the opportunities of cultivating his intellect, and of reaping the rewards of his industry and talent in the higher grades of the secular professions. Well, a University is established; those who had demanded it are vested with plenary power, and they sit beneath the auspices of a powerful and favouring government. One would have

thought that nothing else was necessary now than to throw open at once the portals of learning and of honour, and to proclaim, in a word, that the barriers which riches and religion had set up against the progress of the mind were thrown down for ever. But no—the Council of the liberal University must afford another proof that the worst aristocracy is a democracy in power. They meet, and gravely deliberate; they grow more aristocratic every day; they begin to assume the styles and titles which, when borne by others, they had so despised; and after much agitation, and many changes of their schemes, each that is proposed being more exclusive than the last, they pompously announce a plan fully as exclusive as that of any University in the kingdom. They admit, indeed, men of any or of no religion; but though they need not be Christians, they must be gentlemen; they must be "the sons of persons moving in a higher class of society," for "we wish to keep up the estimation which physicians in this country have always maintained *."

All this would have been very well, if an aristocratic University had been needed; but while Cambridge and Oxford exist, the small number of the sons of the higher classes who will have any scruple against resorting to them will be far too small to maintain another University of the same kind. An University in London, of which, as we have often said, we have always supported the establishment, should have been one which would not only have satisfied the demands and deserts of those who conscientiously dissent from the doctrines of the Church of England, but which should have conferred on those who, from limited means or other circumstances, are prevented from graduating at Cambridge or Oxford, advantages similar to those which the old Universities afford. Dissenters alone can never maintain an expensive University, and the London University will never be able to offer advantages sufficient to attract the sons of the richer churchmen. Its endeavour should have been to establish an aristocracy of professional intellect: with a comparative disregard of the literary education of its graduates, it should have instituted a course of practical education, and of practical examinations, which should have ensured that those who possessed its diplomas were fully competent to the highest duties of their profession. It would have gained far more both of honour and of profit by having educated a large class of sound practitioners, than by an abortive rivalry with Oxford and Cambridge.

But it is truly unfortunate that when they had determined to have a very aristocratic scheme, the Medical Faculty should have set about it so awkwardly as they have done. The intention appears to have been to make the preliminary examination a test of respectability under the guise of a test of intellect alone; and it is therefore loaded with subjects of the most heterogeneous and most irrelevant character; candidates are to be learned "omnibus rebus, cum quibusdam aliis." To find out how far a candidate's education has been expensive, and thereby how rich his parents are, it is amply sufficient to take a single subject of a certain difficulty. Thus, the translation of the Greek of Hippocrates and Aretæus into Latin, as required by the College of Physicians, can leave little doubt that the competent candidate has been educated at a school of respectability. But the Medical Faculty thought such a system to be too openly a test of mere respectability for their use, who wished at least to seem careless of that qualification, and to regard it as of minor importance to intellectual acquirements.

* Letter from C. L., one of the better class of the Council, in our number for August 11th.

In the vast selection of subjects which they have made, they have been singularly infelicitous, and one might almost imagine that they had by design included every art and science but those which minister to the art and science of practical medicine. There are classics of all kinds but the medical—Homer, Xenophon, Virgil, Horace, Sallust, Cæsar, Livy, Cicero. There are French, or German, and English (as if the man who could translate Homer and Horace could neither read nor write his mother tongue). Then there is the History of Greece to the death of Alexander, a period which exactly excludes the earliest part of the history of medicine, after Hippocrates, in the Alexandrian school; the history of Rome to the death of Augustus—that is, to the commencement of the history of medicine in Rome; and the history of England to the end of the 17th century, so as just to come upon the verge of the history of medicine in this country; as if in each case care had been taken to leave off where the history of a country began to be of interest in its relation to the progress of the medical profession. Then we have arithmetic up to compound interest; algebra to quadratic equations—logarithms, mensuration, and the first book of Euclid! There are mechanics and hydrostatics, hydraulics and pneumatics—acoustics—heat, electricity and magnetism—optics and astronomy!! (We marvel much that astrology is not in the number, if only for its relation to animal magnetism). Ultimately they require the elements of logic and of moral philosophy.

Was ever such a list set before any man? Why—the candidate who can "show a competent knowledge of all these subjects*," ought to be received with open arms, and straightway elected a member of the medical faculty; for surely none of its present members could pretend to accomplish such a feat as this.

Scarcely one pupil educated at Eton, Charter-house, Shrewsbury, &c. will be unable to pass this examination without special preparation, if it be conducted with the severity which the Council threaten, and which we believe they mean to carry into effect; for such men as the Rev. Connop Thirlwall and the Rev. Robert Murphy, whom we find they have lately appointed examiners, are not of the class who will be contented with a superficial or popular knowledge of their subjects. The examination is about equivalent in quality, and far more than equal in quantity, to that which has to be passed for a common degree in arts at either Cambridge or Oxford, after the education of the candidate at either of those Universities for three or four years. So that as it appears that they expect students to begin their medical studies before they are nineteen; that is, as soon as possible after they leave school, the candidates for their degrees must be equal at the outset to the majority of Bachelors of Arts of Cambridge and Oxford. There is much of vanity in all this—they imagine that the great public schools will alter, extend, and accelerate their modes of teaching, to adapt their pupils for passing an examination in the London University—that they will convert the present solid system of education at these establishments into a popular superficialty. But the Council will be grievously disappointed—old institutions are not so easily moved—they will continue, we are convinced, in spite of any number of new Universities, rather to teach a few things well than a number ill.

If, then, the Council adopt the strict method of examination, which their style and expressions threaten, the examiners will hold sinecures. But we say "if," because it is just possible

* Report, p. 170.

that the examination may be made to adapt itself exactly to a peculiar though small class of young men, to whom the medical faculty of the University cannot but be favourable;—we mean the pupils of the Gower Street College. The teachers in Gower Street will, of course, adopt at once any plan which may give them the slightest appearance of connexion with the University, or of advantage over the other public schools, and will teach any number of subjects to the least necessary depth, provided they can then have a monopoly of those who intend to take medical degrees in London. We also see too much reason to suspect that it is a leading point in the legislation for this University to make it a means of assisting various individuals who are connected with this its favourite college.

It would appear that in their pride of exaltation to be legislators, they imagine that they shall attract those who have graduated elsewhere to come and crown their academic honours with a degree at Somerset House. Indeed, this is almost implied in the opening sentence of the Report*. "Candidates for Degrees in Medicine shall be required to have taken a degree in Arts in this University, or in a University, the degrees granted by which are recognised by the Senate of this University." Indeed! We can scarcely imagine the anxiety with which the Senates of Cambridge and Oxford will wait to hear whether they are to be among the favoured number of the recognised.

Whatever be the intended severity of examination, this at least is certain, that the omission of nearly every thing relating to medicine from the preliminary education required is most happily adapted to exclude all those for whom the projectors originally professed so much esteem; all that large class who now go to Apothecaries' Hall,—that is, the whole general class of medical students. There are many who, after having been educated at schools of but moderate respectability, spend many years in the pursuit of medical knowledge, to the comparative and very praiseworthy neglect of irrelevant subjects, who desire to be physicians, and are obliged to take degrees which confer no honour, because regulations of other Universities prevent them, without great trouble and expense, from obtaining those which do. This is the class to which the London University should have catered; it should have drawn from the more talented of the medical students—it should have conferred its honours upon them, and it would then have received an abundant return of honours from the reputation which they in their turn would have gained for it. But it is evident that "medical students" are not respectable enough for the University of London.

In an early number we shall return to this subject; for if this same precious code be once adopted, discussion will come too late: at present we shall only add our cenviction that the proposed regulations evidently emanate from a set of speculatists not practically acquainted with medical education, *and cannot be carried into effect.*

* Page 139.

EXAMINATION FOR B.A. AT CAMBRIDGE.

The following list of the subjects of examination for the degree of B.A. at Cambridge, will be interesting when compared with that published last week for the same degree in the London University, and includes all the subjects which will be required in the more severe system of examination which will come into force in January 1841:—

The Acts of the Apostles, one of the Greek and one of the Latin Classics.

Paley's Moral Philosophy.

Euclid.—Books i. ii. iii. and part of vi.
Arithmetic.
Algebra.—The simpler parts up to equations.
Mechanics.—The parts which can be done by the help of the simpler parts of mathematics, such as the composition and resolution of forces, the mechanical powers, centre of gravity, &c.
Hydrostatics.—The simpler parts, such as the pressure of non-elastic fluids—specific gravities.

The candidate must shew a competent knowledge of all these subjects.

It will be seen, that while the London University requires the same, or rather a greater amount of each of these subjects, it demands, besides, an equivalent, on Grecian, Roman, and English history—of the French or German language—and of the principles of acoustics, heat, electricity, magnetism, optics, astronomy, and logic!!!

It is unnecessary, also, to add, that candidates for medical degrees at Cambridge are not required to pass even the above examination, but may proceed at once to their B.M. degree without taking that of B.A. The only essential literary examination which they have to undergo, is that which is commonly called the Little-go, and which includes

One of the Gospels in Greek,
Paley's Evidences,
A Greek subject and
A Latin subject.

GLASGOW EYE INFIRMARY.

Clinical Lectures by Dr. Wood, Assistant-Surgeon.

Origin of Glasgow Eye Infirmary—Ophthalmia of New-born Infants—History—Treatment—Cases.

It will be not an unfitting commencement of the lectures, the duty of delivering which has been assigned to me, to give you a short sketch of the origin and history of this Infirmary. There may occur to some among you, in future life, opportunities of establishing medical charities, by which, while the poor are relieved, your own knowledge will be, and perhaps your reputation may be, increased. Information bearing upon this topic, therefore is not out of place.

The Glasgow Eye Infirmary was instituted fourteen years ago, and is indebted for its origin to the united exertions of the late Dr. Monteath, and Dr. Mackenzie, the present senior surgeon.

The fiscal affairs of the institution are managed by a president, a treasurer, a secretary, and twelve directors appointed by the subscribers. Four directors retire annually, and their places are supplied by a vote of an annual meeting of those who contribute to the funds of the infirmary. Twelve gentlemen are appointed in addition, all of whom are requested in rotation to visit the infirmary, and record an opinion as to its efficiency and management; and to mediate in any disputes between the servants and patients. These gentlemen are understood to subscribe to the funds of the infirmary: the extent and derivation of which I shall mention. Our income varies very little lately. We receive about 330*l.* a year, entirely from charitable donations and legacies. All who contribute to our funds are permitted an unlimited power of recommendation. Indeed it is very rare that any one is turned away from our doors, recommended or not, unless evidently a person assuming the garb of poverty to avoid the payment of a just fee.

There have been admitted during these fourteen years nearly 9,000 patients. At present our daily attendance may average forty, and we admit daily about three new cases. In the house ten patients can be accommodated, and this accommodation can easily be increased. Patients requiring operations are preferred for admission. This is not a cheap institution. We look to nothing so much as to the cure of the patients; and, including out and in-patients, the average cost of each has hitherto been 6s. 1½d. dearer than in some dispensaries. The medical attendants have no emolument. A minute record of every case is kept, as you know, and is open for your inspection. The subscribers are usually 350.

The medical department is conducted by two surgeons, and an assistant-surgeon. The two surgeons act alternately for three months at a time. The duty of the assistant-surgeon, which office I hold, is to act in the absence of the principal surgeon, and for the present it has been arranged that, while I continue these lectures, I shall admit and take exclusive care of a certain number of patients, so that I shall be enabled to make my lectures more purely clinical than this can assume to be.

Until this arrangement can be carried into effect, I mean to direct your attention to the history of some diseases of the eye, which I deem interesting to the student;

and cases of which we have the means of submitting to your observation.

I shall begin by drawing your attention to the ophthalmia of new-born children—ophthalmia neonatorum. When you commence practice there is every probability that many of your earlier cases will be among the poor, and women in childbed will form a considerable number of your patients. I can hardly imagine a more mortifying feeling to a young practitioner than that which would be felt by him, were he to neglect a case of ophthalmia neonatorum. By saying the case was quite common, and of little importance, he may allay the fears of the parents for the time, but if at the end of a week the eyes of the child are found to be destroyed, could he answer to his conscience as entrusted with the health of his fellow-creatures? It is not a very rare occurrence in the practice of those who are attached to the study of eye diseases, to find infants whose eyes have been totally ruined by inattention or ignorance. I press the subject on your consideration, then; first, because no inflammatory disease of the eye is, in this country, so frequent a cause of blindness. Second, because no inflammation of the eye is more fatal when neglected. Third, because when taken in time, it is a disease more under medical control, probably, than any of its class.

Symptoms.—Increased vascularity of the conjunctiva, particularly the palpebral conjunctiva. It is at this stage that the practitioner may err by not inspecting the eyes of his infant patients. The increased vascularity is soon followed by a discharge of puriform matter, and the disease can no longer be mistaken. Its course you may learn from the cases before you. Unfortunately we have too many opportunities of observing its fatal termination here; for the mothers, having no one to send with their infants, and being unable to leave their houses before a fortnight or three weeks after their delivery, delay making application until it is too late to save the cornea.

Prognosis.—If the corneæ are clear on admission, we find hardly an instance where the eyes are not saved. In such cases, then, the prognosis is favourable, if the attendance of the patient be regular.

If the cornea is hazy or superficially ulcerated, we may anticipate an opacity of one kind or other, of which we should warn the parents, but which may be diminished or even removed by treatment. In those unfortunate cases in which the corneæ have burst, and the irides protruded, we can at the time promise nothing more than to alleviate the pain. The sequelæ of ophthalmia neonatorum I mean to direct your attention to on a future occasion.

Causes.—With regard to the causes of this disease, I shall give you quotations from several high authorities; but before doing so, I may state that any observations I have had it in my power to make have led me to the following conclusion. Leucorrhœa in the mother is the most frequent cause of ophthalmia in new-born infants, It requires some tact to investigate this. and you will in vain expect a confession of gonorrhœa from the mother of an infant in this country. Yet I have no doubt that some of our worst cases have been gonorrhœal. Exposure to a bright light, or to cold, and washing the child's head with spirits, rancid soap, &c. are unsafe. The disease excited by the latter causes, however, do not seem to me to be so dangerous as those which we attribute to a vaginal discharge. We might divide the disease, then, thus :—1. Gonorrhœal ophthalmia neonatorum—not frequent but very dangerous; 2, leucorrhœal—common, dangerous; 3, catarrhal, arising from improper exposure—generally mild, and easily managed; 4, traumatic, from carelessness of the nurse in treating the infant. The cause of this ophthalmia should be carefully investigated, and its progress watched by the surgeon.

We now come to the authorities. Dr. Mackenzie says (p. 432 of his Treatise on the Eye), "We have reason to believe that this disease is, in general, an inoculation of the conjunctiva by leucorrhœal fluid." He admits that cold, exposure to the light, &c., may cause this disease. No doubt of it: and I again beg of you, as likely soon to have it in your power, to investigate the causes of this disease. We have not *one* ophthalmia neonatorum; we have several, differing in their causes, their symptoms, and their treatment. Mr. Lawrence (p. 169, of Treatise on Diseases of the Eye, edition 1833) states, that "in a great proportion of cases there is vaginal discharge from the mother, leucorrhœa, and sometimes gonorrhœa." Again, he says, "Purulent ophthalmia is often seen in the children of healthy mothers, at least of such as appear perfectly healthy, and deny, when questioned, the existence of vaginal discharge in any shape. All the influences which depress the system are favourable to the appearance of purulent ophthalmia."

Having heard the opinions of two of our ablest authorities at home, I now quote that of M. Sanson, of the Hôtel-Dieu, in Paris, as given in the Dictionnaire de Médecine et de Chirurgie Pratiques, (vol. 12.) He seems to agree altogether with Lawrence, and Lawrence and Mackenzie do not essentially differ on this subject. Besides leucorrhœal and gonorrhœal infec-

tion, M. Sanson thinks that defective nutriment, cold, damp, want of proper maternal care, &c. are causes of this disease. I need hardly repeat, that any disease so originating would be catarrhal or traumatic.

From Paris we return to Dublin, and we find that Dr. Jacob (Cyclopædia of Practical Medicine, vol. 3, article Ophthalmia) gives his opinion in this sense—"The investigation of the *causes* of purulent ophthalmia in infants is not attended with much difficulty." I must say that I differ from Dr. Jacob here. In Glasgow, at least, we often find a great difficulty in ascertaining the cause of this; aye, and of many other diseases. The Scotch are said to be peculiarly secretive. Dr. Jacob's treatise is well deserving of your attention.

In a discussion which took place at a meeting of the medical section of the British Association, in 1835, in Dublin, and which I quote from the Dublin Journal, vol. 8, Dr Evory Kennedy said, that "a great deal of difficulty attended the investigation of the origin of purulent ophthalmia, as connected with a specific virus. As far as his experience went, the proportion of cases which could be distinctly referred to gonorrhœa, or to the leucorrhœal discharge, was very small." My opinion is quite different, or rather I ought to say, more correctly, that my experience is different from that of the eminent physician I have just mentioned. You will find, too, that Dr. Jacob and Dr. Kennedy are not of the same opinion as to the difficulty of discovering the *cause* of ophthalmia neonatorum. At the discussion to which I am alluding, Dr. Beatty agreed as to the cause with Dr. Kennedy, not having in many cases observed vaginal discharge in the mother. On the other hand, Mr. Byrne is represented to have said, "that in every case which had fallen under his care he could trace the disease to infection." Dr. F. H. Ramsbotham (see his lecture in the Medical Gazette, vol. 16) does not suppose this disease to depend in general upon a specific virus. The latest work I have seen on the subject is by Dr. Slade. He admits the leucorrhœal origin of the disease; but it is not in my power at present to enter into any detail of his opinions.

Treatment. — I shall not long detain you upon this subject. You see our daily practice; and our books are quite at your service for inspection. When the conjunctiva is swollen, scarification of the internal surface of the lids is a powerful remedy. Leeching the eyelid is generally recommended, and is, no doubt, very efficient. It is not, however, so much under the command of the practitioner in an infirmary, and as apt to be mismanaged by lazy attendants and careless mothers. For this reason I prefer scarification. A drop of the solution of nitrate of silver (10 grains to the ounce of water) is put into the eye daily, or is alternated, particularly if the case be chronic or tedious, with Mr. Guthrie's ointment of nitrate of silver. Blistering behind the ears is occasionally, but not very often necessary. Perhaps the most important part of the local treatment is, an assiduous attention to complete cleanliness. For this purpose we use a solution of one grain of corrosive sublimate in eight ounces of water, and the eye carefully cleansed with it four or six times a day, or, indeed, as often as the puriform discharge has accumulated—an accumulation which is a frequent cause of great mischief. Attention to the general health must not be neglected; and if the alvine discharges are unnatural, small doses of calomel, or of calomel and rhubarb, will be found useful.

Case I.—J. S., æt. eight days; ophthalmia neonatorum commenced three days after birth; discharge very copious; worse in left eye.

> A leech to left upper lid. Ung. Præc. Rubr.; Gutta Sol. Nitr. Arg. gr. x.; Calomelanos, gr. j. o. n.

Next day the leech was repeated. On the week following the ointment was used instead of the drops of nitrate of silver, and the child continuing to improve, was dismissed shortly afterwards. This case affords an example of those which, being taken early, and properly treated, are not followed by any bad results. It is No. 8650. The leeches were of decided benefit.

Case II.—Bad consequences of neglect. I quote from the journals of a former year. M. B., æt. eight days; ophthalmia neonatorum of eight days' standing, affecting both eyes. Cornea safe. Leeches to the temples, and blisters behind the ears. The patient was admitted on the 22nd of October. On the 1st of November it is reported, that owing to the illness of the mother the child has not been brought to the infirmary since the day of admission. The discharge is profuse, but the corneæ are still apparently safe. Scarification of the inner surface of lids. Nitrate of silver drops, and the usual lotion and ointment, were ordered. On the third day an ulcer was observed on the cornea of right eye. The discharge less. Belladonna. On the 8th a blister applied behind each ear, and the scarification repeated. On the 12th reported as improved. On the 24th of the following month leucoma in the seat of the ulcer in right cornea, the only symptom remaining. Had the child been brought regularly at first to the infirmary

it is not likely that either ulcer or leucoma would have occurred.

Case III.—Another case neglected. J. C., æt. four months; both corneæ prominent and conical, the irides adhering to the posterior surfaces, leaving the pupils distinctly visible, though the left cornea is whitish. The results of purulent ophthalmia hitherto unattended. This patient is still under treatment; the vision very imperfect, although slowly improving. Much might have been done for this child at an early stage of its disease.

Case IV.—Danger of delay. J. M., æt. five weeks; affected soon after birth. Left cornea has given way. The right eye was inflamed, but the cornea entire. By active treatment, on the usual principles, the right eye was saved, but the vision of the left was irretrievably lost.

Case V.—In attendance. No. 8852, aged four weeks; ophthalmia of both eyes. Disease noticed six days after birth; discharge great; cornea clear.

Scarification; Nitras Argenti, in solution. Ung. Pr. Rubri; Collyrium; latterly a leech to each upper lid.

You can observe for yourselves the progress of the case. I may mention, that the mother had a vaginal discharge, probably leucorrhœa, at the time of the child's birth.

KING'S COLLEGE MEDICAL AND SCIENTIFIC SOCIETY.

October 25, 1838.

This body, which has existed several years, held its first meeting for the present session on Thursday evening; Professor Arnott in the chair.

The introductory address, read by Mr. Bowman, the secretary, was devoted to a critical examination of the advantages offered by debating societies to the medical student in the more advanced stages of his education. The principal objections that have been made to them were investigated in the course of it, and those circumstances adverted to particularly which might tend to diminish their value. Many of the remarks bore especial reference to the society assembled, at the meeting of which, punctual attendance, as well as a regular supply of papers, is required on the part of the members, and the chair is taken, in rotation, by the professors of the medical department of the college. It is, indeed, of the first consequence to the success and fair development of all academical associations of this description, that they be conducted with strict order and decorum—an end to be obtained, perhaps, in no more efficient manner than by such regulations as have been just adverted to. When carried on with propriety, and in a candid and modest spirit they open many avenues where the aspiring student may safely refresh himself from routine study, and in which all have an opportunity of reaping numerous benefits that are scarcely to be secured in any other way. But as this is not always at once admitted, it may not be out of place to mention some of those enumerated by Mr. Bowman.

The composition of an essay on some subjects connected with the profession of the writer must be granted to be a most useful mental exercise, leading him by strong incentives to store his mind with the facts and reasonings that relate to it—to compare, arrange, and weigh them—and perhaps even to strike out new paths of observation or inquiry for himself. What he thus acquires, too, will make a deeper impression than usual, and he may from this very period imbibe a fondness for his subject, which may be attended afterwards with results of real importance. It must be gratifying to the student to know that the germs of many useful, and of a few most excellent, contributions to the medical literature of our country have been traced by their authors to unpretending papers, read, while they were students, before debating societies; and though it be true that these results are but rarely to be looked for, there are others more generally met with, and which are not the less valuable because less immediately or distinctly recognised. Thus, the little business of composing papers has often, ere now, been instrumental in giving an impulse and a tone to the mind which has been felt beneficially throughout life. These facts entitle such societies at least to respect. The attention given to style and delivery, also, is obviously of much service, and need not be insisted on. Besides, the means thus afforded of making industry and talent known, though certainly less distinguished, are perhaps no less effectual incentives at the time than any system of academic honours, and this peculiar advantage attends them, not commonly possessed by the other, that, as merit is measured rather in an absolute than a comparative sense, there is small room left for corroding envy or disappointment to creep in, and mar every good result. At any rate, where professors or teachers undertake to preside in the arena, the production of these papers, by offering an honourable stimulus to industry, may be considered as an important help to the sessional prizes, now every where distributed; and with respect to their general bearing, it must be allowed they could be ill dispensed with, since by informing every

one of the extent of surface about to be trodden, by yielding a variety of topics for discussion, and by placing at least one person on his defence, they afford the best possible security for an orderly, expansive, and spirited debate.

The benefits to be derived from the second feature of such societies are perhaps sometimes incorrectly valued; since they seem not so much to consist in the fluency of speech, and power of addressing an audience with self-possession, which the debate affords an opportunity of cultivating, as in that readiness and precision of thought, which is in some measure a necessary consequence of engaging actively in the proceedings. Professional knowledge, also, is corrected and extended in a pleasing and often impressive way, and the debater is led to form a juster estimate of his own powers and acquirements, when he finds himself measured fairly in public by the side of others. These are advantages which could scarcely be so well attained by any other means. But do these societies tend to divert the mind from that regular application to a course of study which is so essential to success in academical pursuits? The question will be best answered by fact. In the debating societies of Edinburgh and Cambridge, very many of those men who have entered with most spirit into the business, and held the respective offices of the association during their studies, have since arrived at high eminence in almost every walk of life; and generally it has been found that those most zealous for the prosperity of such societies have been most successful, also, in honourable competition with their fellows. Indeed, when time, which should be otherwise appropriated, is unsuitably trifled away in this channel, it is much to be suspected that did this not present itself, some other, far worse, might be chosen.

Our space will not allow us to give any further abstract of Mr. Bowman's paper, though the importance of the subject to medical students might well warrant it. But from the zeal and interest displayed on the present occasion, there can be no doubt that the advantages offered by this and similar societies, in other schools, are becoming more generally appreciated.

PHYSICAL SOCIETY, GUY'S HOSPITAL.

20th October, 1838.

MR. BRANSBY COOPER IN THE CHAIR.

DR. HUGHES read the two following cases of

Aneurism of the Aorta.

CASE I.—A man, aged 40, when first seen by the relator, had suffered from cough for five years, and observed a pulsating tumor above the right sterno-clavicular articulation for six months. He presented the usual general and physical symptoms of aneurism of the arteria innominata, together with consolidation of the upper lobe of the right lung, and a feeble heart. In about a fortnight after, the tumor disappeared during the night, and could never after be discovered; the only apparent remains existing in the much larger size of the right than the left subclavian artery. At the same time, dyspnœa increased; the expectoration was more abundant, and was for two or three days slightly streaked with blood; and dysphagia now for the first time appeared. He began to sink rapidly, and the distress became excessive, till he expectorated about ʒvj. of viscid reddish-brown purulent mucus. He was temporarily relieved; the sputa became again untinged with blood; and the general and physical symptoms were unchanged, with the exception of increased debility, till about four months after the disappearance of the tumor, when, after severe suffering for 36 hours, he expired. On examination, the upper lobe of the right lung was consolidated from old pneumonia, and contained in its centre an irregular cavity, capable of holding a pullet's egg, and a few scattered tubercles; the other parts of the lungs were comparatively free from disease, œdema and bronchitis alone affecting them. In front of the trachea was a small ulcerated opening, closed by a portion of fibrin communicating with an aneurism of the aorta. The heart was small and soft. The aorta ascendens was much dilated and diseased; the innominata much dilated and thickened. From its right side proceeded an aneurism as large as a chesnut; from its left in part, and partly from the arch of the aorta, proceeded another, as large as a hen's egg, pressing upon and having an ulcerated opening into the trachea. To the left of the left subclavian was a third aneurism, as large as a walnut. All contained firm, whitish fibrin. The right subclavian was much enlarged; the right carotid natural; the left carotid very small, and its mouth completely closed, a puckered depression alone marking its former situation; the mouth of the left subclavian also had been recently but entirely closed by the pressure of the aneurism near it.

In his observations, Dr. Hughes directed particular attention to the doubtful diagnosis, in consequence of the disappearance of the tumor, and the curious pathological fact of the occlusion of the left carotid

and subclavian arteries, and referred to a case operated on several years ago by Mr. Key, in which a similar obstruction of the left carotid was found after death.

Case II.—A short stout man, aged 50, first came under the reciter's notice three years before his death, when he had a small pulsating tumor between the cartilages of the third and fourth ribs of the left side. From the medicines prescribed and the advice given, he did not suffer any even temporary inconvenience from it till September 1837, when he came into the hospital under Mr. Cooper, and when he suffered from the general symptoms of diseased heart. The tumor still existed, but had not increased in size; his complaints were not severe; he had no cough, ascites, œdema, hæmoptysis, or dysphagia; he suffered simply from a little dyspnœa, pain in the tumor and left shoulder. The physical signs were those of aneurism of the ascending aorta; and the heart itself appeared but little affected. After two months the tumor became rather suddenly reduced in size, and the pulsation communicated to it considerably decreased; the general symptoms at the same time were mitigated; but about a month afterwards he caught cold, and sank rather rapidly under an attack of bronchitis. On examination a large aneurism was found just above the sigmoid valves, passing to the left, and forming the tumor observed during life, and also behind the heart, and so compressing the right ventricle that it was rendered concave externally, and was upon the point of yielding to the pressure of the aneurism, its parietes being soft, red, and ulcerated. The valves of the pulmonary artery were curiously affected, one only being sound; another was reduced to one-third of its normal size by adhesion; and the third had almost entirely disappeared, in consequence of its union with the coats of the vessel. The pericardium was universally adherent, &c. &c.

The particular points adverted to by Dr. Hughes were—the cessation of all symptoms for three years, the rarity of the tumor presenting on the left of the sternum, the partial subsidence of the swelling, and the direction in which it had a tendency to burst.

Dr. Addison made some remarks on the symptoms and diagnosis of aneurism of the aorta. In aged individuals, constituting the large majority of these cases, the diagnosis was comparatively easy; but in young subjects, where usually there is little or no disease of the heart and adjacent vessels, the diagnosis was frequently reduced to a mere conjecture, and at all times most difficult. With regard to the receding of an aneurismal tumor, after it had once made its appearance beyond the ribs or sternum, Dr. Addison said he very much doubted the fact. He had never been satisfied of the genuine occurrence of this circumstance; and he imagined that, in Dr. Hughes' illustrations, some tumor or enlarged vein might have been pushed forward by the artery behind, and this after a time subsiding, have given rise to the belief that it was a receding of the aneurism itself. The Doctor had seen several examples where an aneurismal tumor of the aorta had presented itself on the left of the sternum, and had found after death that, in these cases, the aneurism had arisen from that part of the vessel which is immediately above the sigmoid valves. When so situated, it was the Doctor's opinion that the aneurism invariably existed at that spot. There was now in Guy's a man in whom the aneurismal tumor protrudes at the left side of the sternum; and he had from this circumstance alone ventured to prognosticate its position accordingly.

Observations were also made by Dr. Guy, Mr. Greenwood, Mr. Iliff, the President; and by Dr. Hughes, in reply; after which the thanks of the Society were presented to Dr. Hughes for his interesting communication, and the meeting adjourned.

LONDON HOSPITAL.

CASES OF DOUBLE AMPUTATION.

To the Editor of the Medical Gazette.

Sir,

In the last number of the British and Foreign Medical Review are two cases from an American journal, of double amputation of the legs, for mortification of the feet. It is surely a pity to be compelled to *import*, when our own hospitals, if properly used, would afford so many cases equally interesting. Perhaps the following brief notice, from memory, of three cases which occurred during the last winter in the London Hospital, may not be wholly uninteresting:—

Before mentioning them I would just allude to (a very trite subject, I fear) the loss which medical science sustains from the want of acurate and systematic records of the cases occurring in the metropolitan hospitals. For instance, if in the London Hospital (which, with one or two exceptions perhaps, admits more accidents than any hospital in the kingdom—certainly many more than any in London,) an accurate account were kept and published of

all accidents admitted, with treatment and results, and more detailed description of the more severe cases tabularly arranged, so as to be useful for statistical purposes, what a valuable addition would be made to our knowledge of the results of severe accidents in the metropolis. But if all the hospitals should do so, how invaluable a document would be produced. This will be thought, I dare say, a very chimerical suggestion. I can only say it *ought not* to be so; and if our love of science, and our freedom from mutual jealousies were greater, it *would not* be so.

There are two great classes of cases in which an inquiry conducted thus, would, I think, be very useful; I mean compound fractures, and severe contusions of the lower extremities. Increasing attention is given, and justly, to the endeavour to save the limb in cases of compound fracture; but it becomes a serious object of inquiry whether lives are not sometimes sacrificed in the attempt. It is often said, "If we do not succeed we can but take it off at last;" but this is a very fallacious hope: for, to say nothing of the physical powers, the moral powers of the patient are often so exhausted that he cannot summon up courage to undergo the operation, and in general feels little anxiety about life. This I have seen so frequently, that I feel very little dependence on such hopes, and I think it is a serious question, whether in bad cases amputation at once, with all its risks, would not shew a more favourable result.

Bad contusions of the lower extremities are very fatal accidents in the London hospitals, from erysipelatous and gangrenous inflammation; and it may be a question whether it would not be justifiable in very bad cases to substitute the smooth incision of amputation, for the contused and jammed extremity.

I do not think there would be much difficulty in getting details of the kind I have mentioned; and if the surgeons of the London or other hospitals were to offer their dressers *a small prize for the most accurate report*, a double end would be answered.—I remain, sir,

Your obedient servant,
A Pupil.

Cases.—1. This was a black sailor, æt. 30; he had been out of employ in the early part of the winter, and had got jobs at various wharfs, when he was much exposed; he was seized with the prevailing fever in the beginning of December, which terminated in gangrene of both feet, extending an inch or two above the ankles; the line of demarcation had clearly formed, and the process of separation considerably advanced. His health had much improved, and his appetite was good. His legs were amputated by Mr. Luke, by the double flap operation: the left leg was first amputated, and the stump committed to the care of Mr. Curling to dress, and Mr. L. immediately proceeded to amputate the right leg. Both operations were completed in about four minutes, and the dressing occupied about fifteen*. He stood the operation well, roaring lustily. The stumps healed in greater part of their extent by adhesion, but considerable suppuration afterwards took place round the ends of the bones, and some exfoliation of the end of the left tibia. He recovered strength and substance rapidly, and having been a cook, proved quite a connoisseur in his eating and drinking. He left the hospital cured, in about eight weeks, a passage to his wife and family in the West Indies having been procured by the kind exertions of gentlemen connected with the hospital.

2. The second patient was a "parish boy," æt. about 17. The gangrene had in this case also been the result of fever, (the fever which was so very severe in Whitechapel and the surrounding parishes during most part of the winter), which had made sad havoc in a delicate constitution. He was admitted almost reduced to a skeleton: pulse rapid; countenance anxious; tongue dry and cut; with night-sweats whenever he fell off to sleep, which, however, was not often the case, without artificial aid. In addition, he was harassed by an almost continual hacking cough, though the stethescope fortunately detected no very particular signs of disease of lungs. He was of pre-eminently scrofulous disposition, with fair skin, showing every vein over his chest, forming a net-work which was very remarkable, excessively irritable, and with large head, and evidently superior intellectual development. His appetite was on the whole good, though variable. He was ordered full and extra diet, with wine and ale. The gangrene had extended above the ankle, and had nearly separated.

Finding, when he had been in the house a week, that he was losing rather than gaining ground, Mr. Luke determined to operate; not, however, I think, without considerable reluctance, the case being about as bad as could well be looked for. The operation was performed, as in the last case, it not being, however, easy to make flaps, from his extreme emaciation. Being evidently a determined lad, he bore the operation well; and on Mr. Luke's

* I mention the time occupied merely that a better estimate may be formed of the shock to the constitutionn.

asking him afterwards if he would like a glass of wine, said, "Yes, I will take one, sir, if you will take one with me."

On the second day after the operation severe diarrhœa came on, and several aphthæ formed around the tongue, and he became very much depressed, but rallied again, and then regained his flesh with very great rapidity. The stumps healed almost throughout by adhesion, and in a very few weeks he left the hospital quite *en bon point*.

3. The third was a patient of Mr. Andrews, a man of between 40 and 50. The disease had here also originated in fever, I believe. He was not in so great a state of prostration on admission as the former cases. The gangrene had only extended up to the ankle-joint, and the feet were easily removed by cutting the tendons with a pair of scissors. The stumps not proving any very great source of irritation, it was thought better not to operate till he had more thoroughly recovered his strength. In due time the operation was performed, and he got well without any other inconvenience than a little exfoliation; having necessarily, however, from the mode of treatment adopted, been much longer in the hospital than the other patients.

It was a painful sight to see these three poor fellows lying together in one of the small wards of the hospital; but the good result of the cases is an encouragement to the performance of double operations.

I may mention that there was another case of gangrene of both legs in the hospital at the same time. This was a case of senile gangrene in an old and diseased woman; and of course, under these circumstances, no operation could be thought of.

COLLEGE OF SURGEONS.

LIST OF GENTLEMEN WHO HAVE RECEIVED DIPLOMAS.

October, 1838.

H. Day, Sidney.—J. W. Poppleton, Almonbury. R. Brookes, jun., Lambeth.—J. Parrock, Berners Street.—T. Woollett, Usk, Monmouth.—T. F. Fernandez, Lamb's Conduit Street.—J. Evans, Tairslock.—W. Molloy, Dublin.—H. G. Harboard, Liverpool.—W. G. Stutter, Liverpool.—E. Edwards, Kidderminster.—G. Reid, Jamaica.—J. Kendrick, Warrington.—H. J. Brouse, Paington.—W. R. Graves.—R. Iheson, Unsworth, Yorkshire.—J. Robinson, Pontefract.—R. Davis, City Road.—R. Pearson, Ormskirk.—B. Edwards, Coalbrookdale.—S. G. Hayes, London.—C. V. Ridout, Sherborn.—R. Dunning, Hull.—G. F. Major, Granard.—A. A. Stanton.—J. Lowdell, East Grimstead.—J. Tucker, Sligo.—T. W. Denton, London.—R. B. Smith, Dublin.—Henry Briscoe, Dublin.—E. D. Doughty, London.—M. G. W. Coates, Newport, Isle of Wight.—W. Sankey, Hasterleigh.—A. D. Milne, Stonehaven.—R. Tamplin, Brighton.—D. Burns, Granard.—H. E. Hadwen, E. I.—E. N. Maxwell, Omagh.—J. Teevan, Princes Place, Kennington.—A. Davis, Rushall, Wilts.—F. W. Drake, Hadleigh.—J. Hunt, Thurnley.—R. Williams, Bristol.—R. P. Roberts, Denbigh.—W. J. Bodger, Brentwood.—T. T. Price, London.—A. H. Ashley, Clifton.—A. Napper, Godalming.—F. D. Nightingale, Windsor.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, October 25.

Philip Hubbert, Horncastle.—William Highmore, Sherborne, Dorset.—Geo. Marshall Crockford, Lewes.—James Watson Swinburn, Liverpool.—Thomas Humble, Newcastle-upon-Tyne.—Francis Colston Mallalieu, Fairfield, near Manchester.—Robert Pearson, Ormskirk.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *Oct.* 30, 1838.

Age and Debility	19	Inflammation	11
Apoplexy	3	Brain	3
Asthma	2	Lungs and Pleura	3
Consumption	33	Liver, diseased	1
Convulsions	22	Measles	1
Dentition or Teething	3	Mortification	2
Dropsy	8	Paralysis	1
Dropsy in the Brain	8	Small-pox	16
Dropsy in the Chest	1	Sore Throat and Quinsey	1
Erysipelas	1	Thrush	1
Fever	11	Unknown Causes	51
Fever, Scarlet	3		
Fever, Typhus	8	Casualties	4
Heart, diseased	3		
Hooping Cough	1		

Increase of Burials, as compared with the preceding week . . . 30

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

Thursday . 25	from 42	to 57	29·99	to 29·92
Friday. . . 26	51	61	29·73	29 86
Saturday . 27	33	59	29 85	29·70
Sunday . . 28	47	53	29·45	29·19
Monday . . 29	44	51	29·19	29 53
Tuesday . 30	35	49	29·65	29·70
Wednesday 31	37	43	29·73	Stat.

Wind, S.W.

Except the 29th and following day, generally cloudy, with frequent and heavy showers of rain. Rain fallen, 1 inch and 4025· of an inch.

HURRICANE.—On the morning of Monday, the 29th, from three to four, the wind blew with the most alarming and tremendous force, uprooting many trees, and doing much damage to the roofs of houses; new and unfinished buildings were in several instances completely thrown down. It appears to be the general opinion that the violence of the wind, which was at its height shortly before 4 o'clock, is unprecedented. During the day the wind had been variable; from five to nine in the evening, S.E. and S.W.; judging chiefly from the nature of the devastation, we should say that the hurricane must have been from the S.W. Nearly 5· of an inch of rain fell between seven and ten on the evening of the 28th, with a gentle breeze from the S.E.

CHARLES HENRY ADAMS.

WILSON & SON, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, NOVEMBER 10, 1838.

LECTURES ON SURGERY,

DELIVERED AT ST. THOMAS'S HOSPITAL,

BY THE LATE MR. CLINE;

With Notes.

[THESE lectures were written by Dr. Wilkinson when attending Mr. Cline's lectures, in the years 1787-88-89.

Extract of a letter from Dr. Wilkinson, dated Feb. 6, 1838 :—" They (these lectures) are the results of six courses of lectures I attended at St. Thomas's, in 1787, 1788, and 1789; and I am in hopes I did not omit any interesting part of Mr. Cline's valuable observations. The one I had the pleasure of giving you is the repeatedly corrected copy."]

LECTURE VII.

Injuries of the Head requiring the Trepan.—Suppuration.—Extravasation of Blood.—Fractures of the Cranium.—Concussion of the Brain.—Instruments used in Trephining.—Application of the Trephine to the Sternum.

The operation of trepanning may be necessary in cases of fracture, to replace any portion of bone, or to remove pus or blood between the membranes. From violence inflicted on the head, extravasations are frequently taking place between the dura mater and cranium, or between the dura and pia mater, which should be removed by perforating the cranium, otherwise the pressure impedes the function of the brain, producing symptoms which go on increasing, till at last they are fatal. Also from injury, inflammation is frequently produced in the membranes, which often goes on to suppuration; therefore, perforations are necessary to let out the matter.

We shall first consider what takes place under circumstances of inflammation, which does not come on till some time after the accident has happened. A blow received on the head, whether attended with a wound or not, and very frequently without fracturing the skull, may be doing considerable injury to the internal parts; perhaps the dura mater is separated in some degree from the cranium, from violent external injury. Inflammation is excited, which does not take place for some days after, or perhaps weeks—sometimes five or six weeks; the patient finds there is pain coming on in his head, becomes feverish, and this is soon succeeded by nausea and vomiting; frequently severe rigors, followed in a few hours by others, at length delirium supervenes, the symptoms go on increasing, and the fever and delirium likewise, at length ending in convulsions and death. This is from the injury to the membranes of the brain having been such, that it did not immediately produce extravasation of the fluids, but gradually excited inflammation of the parts, which progressively extended from one part to another, going on to suppuration, indicated by the severe rigors which take place.

The accumulation of matter in any of these parts must necessarily produce the most violent symptoms, which go on increasing, and generally destroy the patient in a few days, if not soon relieved. In all these cases of inflammation of the membranes of the brain the pulse is not full, but small and quick—a thready-like pulse; the patient's skin is very hot; he becomes extremely restless, and the pain seems to be extended over the whole head. At this time the countenance becomes flushed, the tunica conjunctiva red; there is a wildness in the eyes, soon followed by delirium and rigors. In cases of this kind,

evacuations should be used with great freedom. Venesection very largely—as much as the strength will bear—which will probably somewhat diminish the symptoms at first, but they will return in a few hours afterwards, when a repetition will be necessary; after which, evacuations by the bowels should be produced. Antimonials should be exhibited, as Antimon. Tart. or Vin. Antimon., in small quantities, so as to act as relaxants. In these cases a blister to the head is often attended with very great advantage; for, as there is a direct communication of blood-vessels between these of the scalp and those of the dura mater, by exciting an increased circulation in the vessels of the scalp it will assist in emptying the vessels in the inside; blistering, therefore should be used after V.S. and purging. If from sickness the patient is incapable of keeping any thing on his stomach, cathartic clysters should be given. If the symptoms are not very soon got under, they quickly go on to the suppurative stage, and generally when a rigor has taken place, evacuations are useless. We are not to trust to this general treatment of the constitution only, but also attend to the part affected. In a case of this kind, though there be no appearance where the injury was received in the beginning, it will be necessary, when these symptoms come on, to examine the scalp in every part; if nothing is discoverable to the eye, we should feel; and if in any one part the scalp feels fuller than in others, or there be any puffiness, that probably is the seat of the injury. Very frequently there is no appearance at all at the time of the accident; these symptoms come on afterwards; then there is a small rising at the part where the injury was received. To ascertain the state of the parts, an incision should be made down to the bone, in doing which we frequently find the pericranium separated from the bone, an indication of inflammation of the dura mater underneath, and a small quantity of serous blood between it and the bone. When there is such appearance, though there is no fracture or apparent injury of the bone, a circular portion should be removed to examine the state of the membranes underneath. If there has been no delirium nor rigor, the simple incision, by producing a discharge of blood from the part, may be sufficient, with evacuations, &c. Where the injury externally has been such that there is no appearance of contusion or wound to direct you, you may readily know where to make the opening by feeling the parts. If there should be no puffiness, yet if any one part be more painful than another on pressure, or where there is an increased degree of heat, that will be some guide where to make the opening. If the pericranium is found in the least separated from the parts underneath, probably the dura mater opposed to that part has suffered, there being such a connexion between the two, that the dura mater is never injured without the pericranium being affected in consequence.

When a circular piece of bone is taken out, and pus is found underneath, and extending beyond the part you have removed, another portion should be removed, till you have exposed the whole surface, to prevent the possibility of any matter being confined underneath, which would prevent the symptoms being abated. Sometimes in cases of this kind, when they have been neglected, patients will go on for some considerable time after suppuration has taken place, and survive the accident many weeks, of which I know one remarkable instance.

Another injury to the head that will require the operation is *extravasation of blood* taking place, where the symptoms come on much sooner than from inflammation. A person receiving a severe blow on the head may immediately at the time suffer a slight inconvenience that may go off, but in a few hours afterwards he finds some pain coming on in the head; at last becomes sleepy, comatose; great diminution of the senses; vision and hearing become greatly impaired. When these symptoms of oppression of the brain come on in a few hours after the accident, there can be no doubt of its arising from extravasation of blood between the dura mater and cranium. Sometimes it does not come on for several hours, at others in half an hour afterwards, according to the number and size of the vessels separated. Here you have not the same small thready pulse as in inflamed membranes, nor so hard, but rather a slow full pulse. In cases of this kind the head should be examined; if there be no wound or contusion, we should examine all over the scalp, to see if any one part is thicker than another. If this is discovered, we should at that part lay bare the bone, and immediately perforate it. If the symptoms are moderate, venesection and evacuations may suffice. If in making a perforation the blood should be situated between the dura mater and cranium, then you have an opportunity of removing it; if extending beyond where you have opened, it should be traced to its extent. In this and all other injuries of the head the patient should be freely bled. This is laid considerable stress on by Mr. Pott; he says it is never known to what extent the injury may have gone, or what injury may arise afterwards. There are many instances of timely evacuations preventing such an

effusion of blood as would otherwise happen, or inflammation from coming on at all. Such patients should be particularly attentive to their mode of living after this time, not using excess in diet or exercise, or any thing that will increase the circulation, for several weeks after; not that such evacuations will at all times prevent the mischief, or from all the attention that can be paid by the patient respecting diet, exercise, &c.

The injuries which may happen to the bones of the cranium are those of *fissure* and *fracture*. By a fissure is meant simply a small crack in the bone, with a hair-like appearance, the division of the bone being so fine; and it is common in all fractures to have a part thus fissured. But it is of more importance to distinguish between fractures attended with depression and those without. The former is where a portion of bone is driven inward below its common situation, consequently making pressure on the membranes. It is sometimes difficult to distinguish a fissure from a suture or natural appearance; as on the os frontis, where, from the passage of small blood-vessels and the frontal nerves, they form small lines which make an indentation on the surface, appearing very much like a crack on the bone; and such has been mistaken for a fissure. It has been observed that fissures may be distinguished from sulci by the irregularity of their edges, The edges of a fissure are always irregular, forming a sharp and rather irregular edge; but in a natural sulcus, the canal is small, and has a smooth round edge; thus I believe they may generally be distinguished, but in some instances it is difficult. Authors have given a rule by which they may be distinguished—viz. by smearing the bone over with a little ink: if you can wipe it off the surface, it is a sulcus; if a fissure, the fluid penetrates so deep that you cannot wipe it out. However, this distinction between a fissure and sulcus is not of considerable importance; for if we have symptoms that require a perforation of the cranium, though there is no fissure, it is no reason why we should not perforate the bone. Many authors of very good authority have laid it down as absolutely necessary to perforate the bone where there was the least crack, under an idea of it extending through the bone, and that the fluid extravasated would get between it and the dura mater; but it is more probable in this case that the fluids should pass through the crack externally, than between it and the bone where it adheres throughout.

In cases of fracture where there is a division of the edges of the bone, it may be a question whether the operation should be performed or not. Many have insisted that it is not absolutely necessary; but from long experience this may be doubted. Mr. Else's practice was, when there was a fracture of the bone unattended with any symptoms of inflammation, not to take out any portion,—and there were many instances of these patients doing well. Mr. Cheston, of Gloucester, and many others, have adopted the same practice with the same success; for a fracture of the bone simply is of no other consequence than the fracture of any other bone; the injury depends on the mischief done to parts underneath. What I have been now saying is only applicable to fissures and fractures unattended with depression.

There may be depressions independent of fractures in very young subjects. Where there is a depression I am inclined to think the operation should be performed, even where there are no symptoms of inflammation. I have very lately seen a boy who was about 12 or 13 years of age, brought to me to examine his head several weeks after receiving the accident—a very severe blow on the part: this had produced no wound. When I came to examine the part, there was very evidently a fracture, with depression of part of the parietal bone. Several weeks elapsed without my hearing that he ever had any bad symptoms. Some few other instances may be met with where patients have recovered with depressions of the cranium, but I believe they are very rare.

The operation should be performed in the beginning, as it is not in itself to be considered as attended with any danger, though certainly painful; for if the dura mater is not injured in the operation, there would be little doubt of the patient recovering from the operation itself; for merely exposing the surface of the dura mater is not productive of any inflammation that will extend beyond that part; and the outer surface of the dura mater is favourable for healing. I remember some time since a patient of mine who had a considerable depression of part of the os frontis, on whom I performed the operation, and brought the depressed part into its situation, and he got well without any bad symptoms.

Fractures of the cranium are very various in their situation and extent. In young subjects they are generally more extensive than in adults, even from the same degree of injury, probably from the compactness of the bone in the latter, which prevents the fracture from extending so far; also, from the thinness of bone in young subjects, and its fibrous texture: thus on an injury being received it is more likely to extend along the course of its fibres, and to a considerable distance from the part

receiving the injury. I have known it extend from the middle of the occiput to the orbit. If a child receives a blow on the parietal bone, the fracture will extend in several directions, in radiated lines from the part where the injury was received; this is rarely the case in the adult, the bones being much more compact, and the fibrous texture almost entirely lost. I have in more than one instance known a fracture extending in a direct line through the parietal bones, according to the course of its fibres, cross the os frontis, down to the orbit. From this circumstance of the bones being of a fibrous texture, when once you find a fracture you may pretty well judge of the course it will take; for if a blow was received on the middle of the forehead, it would not extend upward and downward, but transversely, that being the direction of its fibres.

Fractures are not uncommon at the basis of the skull, from patients falling immediately on the summit of their head, with little injury of the scalp; these patients go on, with the symptoms becoming gradually worse, whereby they are destroyed. The basis being the weaker part, if force is applied to the summit, the basis will be the most likely to be fractured, especially if a person falls on a soft body. When we can discover a depressed portion of bone, it should be carefully traced to its extent, if in such parts that we can trace it by removing the scalp; it cannot be followed at the basis. It is generally better to trace the fracture before you perforate the bone. If there is depression, the circular piece to be removed should be in the most convenient place for raising it up. The instrument should not be applied on any part that is loose, but at a small distance. In these injuries, every now and then, there are detached portions of bone which should be removed; but these are sometimes so situated, from being lodged or wedged underneath others, as to be difficult to extricate, more especially where the internal table is fractured to a greater extent than the outer. There are some instances, though rare, of the bone being depressed without fracture; but I believe this is only in very young subjects, when the bone is so thin as to yield to pressure. A blow being received on the head of a young child will sometimes press the bone inward. In such a case, when there is no symptom of injury, we should attempt to replace it by drawing the scalp outward, which may be done by a piece of good adhesive plaster soon after the accident. If, on the contrary, it is suffered to remain, it is liable to produce afterwards symptoms of injury; if not, it will produce considerable deformity.

Besides these injuries we have another called *concussion*, or *commotion*, the symptoms of which differ from either of the former. By a concussion of the brain is meant such a degree of injury as to produce symptoms immediately after it is inflicted—where the shock is so great as immediately to produce a cessation of the functions of that organ; this is very frequent, and often complicated with other injuries of the brain. Immediately on receiving the accident the patient becomes senseless, and remains so for some time, in which case he sometimes remains so for days and weeks, and afterwards recovers. Such symptoms, which take place immediately, cannot arise from extravasation; but when the concussion is great, it produces temporary derangement of the brain, so as to impede its functions. Voluntary actions cease; the involuntary go on. Sometimes this is of short duration, only a few minutes, when he recovers and recollects the accident. In these cases of concussion or commotion, the immediate symptom is loss of all sense; the pulse is at first generally slow, but afterwards becomes somewhat quicker, most usually attended with nausea and vomiting, also an involuntary discharge of fæces and urine. When there is no suspicion of a fracture, venesection, purgatives, diaphoretics, and blisters, should be repeated from time to time, according to the pulse. Mr. Belcher, surgeon of this hospital, used to bleed with great freedom in these cases, and often with great success. One patient with concussion of the brain lay in that state for three weeks, during which time he had been bled twenty times, sometimes twice a day. During all this time he lay in a comatose state, from which he afterwards perfectly recovered. Not unfrequently after an injury of this kind some function is impaired. Sometimes there is an alteration in the direction of the eyes, one or both turned rather inward—a degree of squinting. Sometimes patients entirely lose their memory, or become in a state of idiotism. One very extraordinary case I have heard related, of a man who received a concussion of the brain, and remained in a senseless state for a considerable time. He was a native of Wales, and could talk English very well before the accident, but lost the power of speaking it afterwards; yet he had not lost his reasoning faculties. In concussions of the brain, we cannot at all times use evacuations with such freedom: very often the pulse is not a very strong one; in such it will be useful to employ those means which will keep up the exterior circulation, as Dover's powder, antimonals, opiates. In such cases we should always blister the head, keeping it

open, which will tend to prevent inflammation taking place in the membranes of the brain.

It will be necessary, in reference to the operation of trephining, to enumerate those places in which it will be *improper*:—First, in the middle, from the anterior part of the os frontis to the crucial ridge of the os occipitis, on account of the longitudinal sinus. In the os frontis, at a small distance from the orbits, from the situation of the frontal sinus; also where these cavities are formed, the bone being irregular, might endanger the wounding the dura mater; also from the situation of the spinous process in the middle. The sutures are objectionable from the great firmness with which the dura mater adheres to them; but in those cases where it is much more preferable to trepan on the sutures, this should not prevent us; but when you have the choice, it is better to trepan on one side than immediately upon the suture. The parietal bone may be trepanned, except towards the posterior and inferior angle, where there is a foramen for the passage of an artery to the dura mater. The posterior angle is improper, on account of a small portion of the lateral sinus passing over it, which may be wounded. Wounds of the lateral sinus have been thought fatal, but there are instances of patients having recovered; however, as it is productive of violent hæmorrhage, it is better to avoid it. Of the temporal bone, the upper squamous portion may be trepanned, but it will be impracticable below from its irregularity. The occipital bone is unfavourable, on account of the large crucial ridge on the inside; also, from the situation of the large extensor muscles of the head. At the upper and lateral parts the operation may be performed.

The *instruments* used are generally contained in one case:—1st, A knife for scalping. 2d, A rougine to scrape off the pericranium from the bone, laying as much bare as is necessary. 3d, A perforator in a wooden handle, rather than of iron, being easier to the hand; this perforates the outer table, making an aperture sufficiently large to receive an iron pin, which directs the trephine. Having perforated the bone to a sufficient depth, you take out the pin, and go on with the trephine alone, which is better than the trepan. The teeth should be broad, which, though inconvenient from working slowly, yet is of advantage in making a large groove, which is useful for examination, to see whether you have reached the dura mater; from having a very narrow edge you would be more liable to wound the dura mater. It is also grooved on the outside, that it may more readily extricate itself of the dust. Some have been made with large interstices between the teeth, which is found to work well, more perfectly clearing itself, but is attended with the great disadvantage that you get through one part before the other. In the one circumstance it has a very equal boring; but when there are these interstices between, it saws irregularly. Situated in the crown of the trephine we have a pin fixed, to go into the hole made by the perforator. Having made a groove sufficient to steady the instrument, the pin is taken out by a key; otherwise, from its reaching beyond the teeth, it would be liable to wound the dura mater. During the operation you should examine the groove, which is conveniently done with an eyed probe. Having sawed through the bone, you extract it with a pair of forceps. Sometimes there is a small edge left on the sides, to remove which we have the lenticular, to be introduced between the dura mater and cranium, to defend the dura mater; then scrape the edges of the bone to render them smooth. Also a brush, to clean the teeth of the saw occasionally; an elevator, to raise up the depressed portion; also a pair of pincers—a very convenient instrument to take off a pointed extremity of bone, or in an irregular fracture, where there is a projecting portion, within which cannot be removed by any of the former.

Scalping may be done in various ways, either by a simple incision in the parts, or carried in more directions than one, or removing so much of the scalp as to lay the bone bare throughout its whole extent, which last is attended with considerable inconvenience, as it makes a wound very slow in healing; for the scalp is a part so much attached to the bone, that when you remove any large portion the cicatrix must necessarily be as large as the part removed. Of course the process of healing will be slow, and the cicatrix large; it is therefore better not to remove any of the scalp. In all cases of fracture you may make the incisions so as to have no occasion to remove any at all. We should first only make a simple incision on the part supposed to be injured, which will be sufficient if we mean to trepan the patient only in one part. Having denuded the bone, the pericranium should be separated only as far as is necessary for the application of the trephine, for all the outer table of the bone beyond that will exfoliate from the vessels conveying its nourishment being destroyed; then a perforation should be made only a small way through the exterior table, sufficient to receive the point of a pin; we then apply the trephine, having made a groove sufficient to keep it in its place; the pin should be removed. The patient should

be laid on a low table. Having removed the piece of bone, if the matter is discharged by this, we need not proceed any further: if the matter extends further, we should take out more pieces, as far as it goes: if the depression is extensive, it is often necessary to make several perforations to raise the depressed portion upwards, which should be made opposite to, and not upon, the depressed piece. After the part has been thus removed, if you are not apprehensive that there will be a necessity of repeating the operation, the external wound may be brought into contact, and healed if possible by the first intention, which will greatly shorten the time of cure; but when there is a good deal of inflammation of the dura mater, or where there has been a quantity of matter, they should be left apart, laying some lint between, so as to allow a free discharge of the matter; for bringing the lips together would be only confining the pus, and doing further mischief. Sometimes there is fluid situated between the dura and pia mater; either collections of blood or matter formed in this part; in which case it must be evacuated by making an opening. This should not be done without the greatest necessity—without a surety of a fluid situated underneath; and there is frequently a fulness of the dura mater, which is generally a deception; for the opening of the dura mater is attended with considerable hazard, as it is exposing that cavity, and subjects the part to inflammation. Therefore, unless you are perfectly sure that there is a fluid underneath, by its projecting or fluctuating, you had better not wound the dura mater; not but there are instances of patients recovering when the dura mater has been opened.

We have this operation occasionally performed on the *sternum*, directed in those cases when matter is situated in the mediastinum, when a patient has had very severe peripneumonic symptoms, with a painful sensation under the sternum, which is continued some time after the inflammation has ceased, attended with rigors, by which we may expect that matter is formed under the sternum. It cannot be defined well by symptoms; but after it has continued for some time, will be making its way externally, forming an abscess under the integuments: an opening being made, will be found to communicate with another cavity through the bone. In a case of this kind the sternum should be trepanned, removing a portion of the bone, which will not be exposing the cavity of the chest. When carefully laid open, it will granulate from the bottom and heal; otherwise it might remain in a fistulous state for many years.

ON BLOOD-LETTING IN HÆMORRHAGE AND DROPSY.

By Henry Clutterbuck, M.D.

[Dr. Clutterbuck's lectures were supposed to have been concluded in our last volume; but it appears that one lecture remains, which we now subjoin.]

It seems at first rather preposterous to speak of blood-letting as a remedy for hæmorrhage or loss of blood; yet such it unquestionably proves to be on numerous occasions. A little reflection on the subject will satisfy you, that there is nothing unreasonable in such a proposal. This admission, you will say, goes to confirm the homœopathic principle of "similia similibus curantur." But as this principle is not more generally true than its opposite "contraria contrariis," the admission tends but little, in reality, to the support of a doctrine that, considered as universal, is full of absurdity.

Hæmorrhage may be defined—a preternatural discharge of blood from any part of the body, not the result of injury or mechanical violence. Hæmorrhage does not take place indifferently from all parts alike, but is chiefly confined to such as are particularly vascular in structure and delicate in texture; and in which, at the same time, the vessels run superficially.

These conditions are met with in the membrane lining the nostrils and air-passages in general, and especially in the lungs themselves; in the alimentary canal, particularly the extremity of the rectum; in the urinary organs also, which are frequently the seat of this disease; and, lastly, in the uterus, of which hæmorrhage may almost be considered as one of the functions.

In order to understand the use of blood-letting in the different varieties of hæmorrhage, it will be requisite to consider a little the intrinsic nature of the affection in general, or, what is technically termed, its proximate cause. I must premise, however, that the observations I am about to make, apply to what has been called active hæmorrhage, and not at all to those passive forms of the disease (as they have been considered,) in which the blood escapes from the vessels; either owing to their want of contractility, or to the imperfect and dissolved state of the blood itself. Blood-letting, it is plain, can have no application to such.

Now hæmorrhage, of the active kind mentioned, is essentially a local, not a general affection; for although it is sometimes preceded and accompanied by pyrexia,

or a state of general excitement, it nevertheless frequently occurs without any increase of action, or other disorder, either in the heart, or general vascular system. We find it taking place, accordingly, both in the weak and in the strong. Whether the discharge of blood is owing to actual rupture of vessels, or whether it is not attributable (in part at least) to enlargement of the exhaling extremities of the arteries, so as to allow of the escape of blood from them, seems uncertain. It is so often preceded and accompanied by heat, and an increased flow of blood to the part, that it is probable it depends immediately upon an increased action in the capillary extremities of the arteries of the affected part.

The parts peculiarly liable to hæmorrhage are the following:—1st, the nostrils, where the disease takes the name of *epistaxis*; 2nd, the lungs (*hæmoptysis*); 3d, the stomach, from which the blood is usually discharged by vomiting (*hæmatemesis*); 4th, the general tract of the intestinal canal, a discharge of blood from which, though by no means uncommon, has received no particular or appropriate denomination; 5th, the extremity of the rectum (*hæmarrhois*); 6th, the urinary organs (*hæmaturia*); and, lastly, the uterus (*menorrhagia.*) Besides these, which are of the most ordinary occurrence, and where the blood is discharged outwardly, hæmorrhage may take place internally, and is then only known from symptoms, or by examination of the body after death. Thus the heart may burst, or some of the larger vessels in the cavities of the chest or abdomen give way, so as at times to lead to the immediate extinction of life. And the same occurs still more frequently in the brain, giving rise to apoplexy or palsy, or both, according to the particular seat and amount of the blood extravasated. Now blood-letting, though imperatively demanded in many of these cases, is by no means universally proper; and even where it is called for, attention is always required to be paid to the particular circumstances of the case, in order to determine the degree and manner in which the remedy is to be administered.

Let us first speak of the general circumstances that may either call for, or prohibit its use.

When hæmorrhage takes place in persons of full or sanguine habit, and who possess a tolerable share of general strength, when it is accompanied with a febrile state of system (*pyrexia*), and a sense of fulness and distension in and about the part from which the blood flows, or is about to flow, an antiphlogistic mode of treatment is very generally called for, in all respects analogous with that of inflammation, to which, indeed, hæmorrhage nearly approaches in its general characters, and into which it often passes. It is here, if ever, that blood-letting is required; not, however, for the purpose that has sometimes been assigned to it, namely, that of diminishing plethora, but (as in inflammation) with the double object of directly reducing the arterial action of the part; and, indirectly, upon the principle of counter-irritation, or rather counter-impression, as before explained to you. In such cases, after blood-letting, other means of producing counter-irritation, such as vomiting, purging, and blistering, may be resorted to with advantage; as well as *astringents*, which have the effect of producing contraction of the capillaries; and also *sedatives*, for the purpose of allaying vascular excitement, a purpose that is often well answered, both by the digitalis, and the salts of lead.

The notion entertained by many, that hæmorrhage is the consequence of plethora, or an excess of blood in the system, leads to uncertain, and even pernicious practice—uncertain, because, supposing such a state as plethora to exist, which is at least doubtful, it is impossible to estimate its degree—and pernicious, because it inculcates the employment of blood-letting in many cases to which it is not at all adapted, but rather the contrary. In a late elementary treatise on the Materia Medica, the author remarks "that it is unnecessary to draw blood artificially, because the hæmorrhage will cease as soon as the quantity of blood lost brings down the plethoric state which induced it." By acting upon this principle, the patient may be brought into great danger; for we often find hæmorrhage continuing, or recurring at short intervals, to an enormous extent, and in spite of the most liberal use of the lancet, till the system is nearly exhausted. Plethora, it is evident, can have no share in keeping up such hæmorrhages. But, in fact, the object of blood-letting in hæmorrhage is not that of simply diminishing the quantity of blood in the system; but for checking the action of the bleeding vessels, upon the principle of counter-impression, as before explained. The effect, as in the case of inflammation, depends more upon the mode of drawing than upon the quantity of blood lost. And thus hæmorrhage will be checked at times by the sudden loss of half a pound of blood, a quantity that can have no appreciable effect in lessening the bulk of the circulating mass.

When hæmorrhage takes place without febrile symptoms, or when these have subsided; and where the system altogether is weak, either originally or from the continuance of the discharge; where, again,

the pulse is soft and feeble, the skin pale, and the solids soft and flabby, with cold extremities, blood-letting can hardly be either necessary or even safe. In such cases astringents of different kinds, and even the most active general stimulants, are required.

The treatment of hæmorrhages varies considerably, according to the part affected; it becomes necessary, therefore, to speak of them individually; for blood-letting is not equally adapted to all.

In epistaxis, local remedies are of more avail than general ones. Blood-letting is not called for unless there be much throbbing of arteries within the head. Cupping from the back of the neck may, however, be useful, upon the principle of counter-irritation; as also purging and blistering upon the same principle. Should the application of cold to the face not have the desired effect, the snuffing up some active stimulant, such as alchohol, a little diluted, or inhaling the vapour of ammonia, or of the oil of turpentine, would be likely to succeed. Plugging the nostrils is another, though uncertain mode of restraining the hæmorrhage. Sometimes the bleeding orifice is so low down as to be closed by simply compressing the nostrils.

In the treatment of hæmoptysis, blood-letting is often injudiciously administered, and without sufficient discrimination. You should consider the object to be attained by its use, before having recourse to it at all. Bleeding can only restrain hæmorrhage from the lungs, either by lessening the vascular action in general, or that of the lungs in particular. But the general vascular action is not always increased in cases of pulmonary hæmorrhage: and bleeding, therefore, is not necessarily required for such a purpose. In almost all cases of hæmorrhage from the lungs, there is more or less of disorganization, the result of previous inflammation, and which is the real source of the danger to be apprehended. The object of bleeding is to relieve this, and not merely to repress the hæmorrhage, which, of itself, is in most cases of little real importance, and if not going to excess, tends rather to give relief. There is generally an unnecessary degree of alarm felt in these cases, and which frequently leads to improper practice. It is very rare, in cases of hæmoptysis, for the hæmorrhage to go to a dangerous extent. In a few instances, no doubt, it proves immediately fatal, by the blood being poured out so rapidly as to fill the bronchial tubes, so as to occasion suffocation. But such a circumstance cannot be foreseen, nor has blood-letting any power to relieve it. It is not an uncommon practice, in cases of hæmorrhage from the lungs, to expose the naked body of the patient to cold air; or to apply cold water, or even ice, to the surface of the chest. But the effect of this is, by contracting the external vessels, to throw the blood in greater quantity upon the lungs, so as to produce distension of vessels there—a most likely cause of increasing the hæmorrhage at the moment, and of aggravating the local inflammation afterwards. It would be far more advisable to keep up an equable circulation, by friction, external warmth, and even the use of internal stimulants—a practice that I have often seen successful, and the good effect of which is enhanced by making the patient breathe an artificially-cooled atmosphere; as by inhaling from a vessel containing ice.

It is not foreign to the purpose to remark here, that I much question the utility of confining phthisical patients to close apartments, for the purpose of breathing a regulated atmosphere; and that at rather an elevated temperature, as is usually the case. The general circulation is thus liable to be increased, and the hectic disposition aggravated; than which, nothing is more likely to accelerate the progress of the disease. It is doubtless an advantage to preserve an equal circulation over the whole body, with the view of preventing a disproportionate accumulation of blood in the lungs: but this, according to my observation, is best accomplished by warm clothing, and the use of substantial food, as the appetite may require. Nor is the moderate use of stimulants objectionable in such cases, in the winter season. Now while the general circulation is thus maintained *in equilibrio*, that of the lungs themselves should, as far as possible, be restrained—an object that is best attained by the inspiration of cool air. If, therefore, the patient is to be confined to a regulated temperature, the air he breathes should be as cool as is consistent with his comfortable feelings, so as to avoid a sense of chilliness. But I am inclined to believe, from observation, that a much greater latitude than is usually conceded might be adopted in these cases, not only without disadvantage, but with benefit to the patient upon the whole. Over-great care generally defeats its own purpose; by increasing the susceptibility of the body to all impressions. I think I have observed that those phthisical patients do best upon the whole, who are the least fastidious in regard to atmospheric exposure, as well as various other supposed noxious agents. I have known a phthisical patient bathe daily in the open sea throughout the winter; and, according to his own conviction, with decided benefit.

It is true that the disease, in this instance, as is too generally the case, proved ultimately fatal; but after a longer duration, and apparently with less suffering, than in most other cases I have witnessed.

As an important part of the treatment of phthisis pulmonalis, and of hæmoptysis also, as a frequent attendant on this, I would strongly recommend the inhalation of an artificially-cooled atmosphere in the manner I have just hinted at; and that repeatedly in the course of the day. If this, with other parts of the regimen before described, be had recourse to, you will have little occasion for, or rather, I should say, may advantageously dispense with, a farrago of drugs that are usually employed in these cases; always excepting, however, the digitalis, and an occasional small bleeding, the advantage derivable from both which, as sedative or antiphlogistic means, are easily understood, and cannot well be over-rated.

Hæmatemesis, or vomiting of blood, seldom occurs spontaneously, unless in the rare case of its being vicarious with menstruation. It is mostly the effect of organic disease of the stomach itself, or of some neighbouring part, and which, of course, is the result of slow and destructive inflammation. The organic mischief, wherever seated, is of so slow a growth, and so commonly accompanied by general weakness, that there is seldom any call for blood-letting, and only as an occasional palliative. Much the same may be said of a discharge of blood from the intestines. The blood discharged in these cases is usually dark-coloured, and sometimes nearly black, *(melæna)*, from its long remora in the canal previous to its discharge. Affections of this sort, of long standing, as they commonly are, seldom require or admit of blood-letting.

Hæmorrhoidal affections attended by loss of blood, (as the name implies) are so generally accompanied by local disease in the part, without disorder of system, that local remedies, including topical bleeding, are, for the most part, all that is required.

Hæmorrhage from the kidneys seldom occurs, except as the result of the presence of renal calculi; to which blood-letting has no application, unless from the casual combination of active inflammation.

Of uterine hæmorrhage.—Uterine hæmorrhage is distinguished from epistaxis and hæmoptysis, by the muscular contractility possessed by this organ, the uterus, a circumstance which on many occasions materially influences the result of the disease. Thus, when the uterus is in a distended state, as in pregnancy, and the blood-vessels have become enlarged in consequence, the contraction of the organ tends to compress the vessels, and thereby to restrain the bleeding from them. In all cases, therefore, of uterine hæmorrhage, occurring in such circumstances, it is of importance, when otherwise practicable and proper, to remove the distending cause, so as to allow of the contraction of the uterus taking place. On this ground, it is often found necessary to effect the removal of the fœtus, or of the placenta, where this happens to be retained. The obstacle to the contraction of the womb being thus removed, the contraction itself may be promoted by appropriate means; such as pressure over the abdomen, the application of cold, and mechanical irritation of the os uteri itself. Now I hardly need observe, that this is not a case of hæmorrhage in which blood-letting can generally be required. But all this involves a variety of considerations, with which we have here no concern. In other cases of uterine hæmorrhage, unconnected with gestation, the propriety of having recourse to blood-letting must, of course, be determined by the circumstances present. These may be such as to require the use of this remedy; as where the habit is strong, and signs of inflammation exist. But where the general strength is exhausted from the long continuance of the hæmorrhage, a different treatment is required: of which the following case affords an instance:—A woman, after suffering a miscarriage, had frequent returns of hæmorrhage during seven weeks, when I first saw her. She had been bled freely and repeatedly, and the usual astringent remedies had been employed, but without the desired effect. She had become pale—the pulse was soft and weak—and the extremities cold. Three drachms of the compound Tincture of Cinnamon, with one drachm of the Spiritus Ammoniæ, a little diluted, were given every four hours. This excited much feverish heat and thirst. The hæmorrhage soon ceased, and did not again recur. I have used the Ol. Terebinth. in other cases of the sort, with equal advantage. Some practitioners, I may observe, have recommended a large use of opium, in cases of uterine hæmorrhage immediately following parturition; but upon what just grounds it is difficult to perceive. Opium is powerful in lessening the disposition to muscular action in general, and so far seems calculated to prevent that contraction of the uterus which is the chief means of suppressing the hæmorrhage in such cases.

An equal objection, as I think, applies to the use of brandy or other spirit, which it has been the fashion of late to administer to an enormous extent to patients so circumstanced. Now alcohol, when largely employed, has nearly the same effect as opium in diminishing muscular

power. They are both narcotics. And although spirit appears to be more stimulant, with respect to the action of the heart and sanguiferous system altogether, its effect in this way is not lasting, nor can it be kept up for any length of time; so that no permanent advantage is gained by it. An appeal is made to experience here, as deciding in favour of the practice. But nothing is so fallacious as what is called experience. It is, in fact, little more in general than individual opinion, and practitioners, I know, are much divided on the subject. All I wish to say is, do not hastily adopt opinions on this or any other subject.

Of the Use of Blood-letting in Dropsy.

As with regard to most other medical subjects, you will find a great and lamentable diversity of opinion among writers, not only with respect to the supposed nature and mode of production of dropsy (what we call the theory of the disease), but, which is of far greater moment, the treatment proposed for its relief. Thus, the notion of debility is almost universally coupled with dropsy; in consequence of which, blood-letting, as a debilitating power, is particularly dreaded, not merely as incompatible with the nature of the disease, but as tending, in fact, to its production. Under this apprehension, the use of this remedy is avoided on numerous occasions where it is urgently required. On the other hand, it is sometimes asserted that bleeding cures dropsy. But neither of these opinions is true in the abstract. Bleeding has no direct tendency to produce dropsy; nor, on the other hand, does it directly cure the disease, although its employment is often strongly called for. To understand all this, we must look a little to the origin of the disease, and the manner of its production.

Dropsy is a preternatural accumulation of serous fluid in any of the cavities or interstices of the body; and, of course, the seat of it may be very various. It may take place, for example, in any of the close cavities of the body—as the abdomen, thorax, or cranium; as well as others, which it is needless to particularize, because the same general principles apply to all of them. These have been sometimes termed encysted dropsies, in order to distinguish them from that diffused or cellular species where the fluid is lodged in the cellular or reticular membrane that connects the skin with the subjacent parts, and contiguous organs with each other. This variety of dropsy only differs from the former by the circumstance of the fluid readily passing from one part to another, by gravitation or pressure, in consequence of the free communication that exists between the different parts throughout the whole cellular structure.

Now there is constantly going on, in health, a secretion or exhalation of fluid from all the surfaces mentioned, in quantity just sufficient to keep those surfaces moist; while the fluid thus thrown out is as constantly taken up again by the absorbents, and carried into the veins, by a route which you are of course acquainted with. Thus, exhalation and absorption are balanced, and there is no accumulation in any of the cavities or interstices of the body. But if either of these functions should be materially disturbed, so that exhalation should much exceed absorption, accumulation necessarily takes place, and dropsy is the result. So far, there is no uncertainty; but with regard to the precise way in which the accumulation takes place, in different instances, there is much difference of opinion; and as the question of treatment, especially in regard to the use of blood-letting, becomes involved, we must go further into the inquiry.

There are different ways in which the accumulation may take place in dropsy. For instance, exhalation may be morbidly increased, absorption continuing as before: in this case, the exhalents are in fault. Or exhalation taking place in the ordinary degree, absorption may be defective. It may even happen that both exhalation and absorption are either in excess, or deficient, at the same time; and yet, provided the former exceeds the latter, accumulation will be the consequence. These, however, are cases that can hardly be distinguished in practice. But it is of consequence to determine, in a general way, whether, in any particular instance, the dropsical accumulation is owing to increased secretion or exhalation, or to diminished absorption; for the treatment will differ widely, according as the one or the other happens to be the immediate cause of the accumulation. In order to determine this, we should inquire into the causes and circumstances that can occasion either increased exhalation or diminished absorption; for the treatment must be adapted, as far as possible, to the one or the other, as it may happen to prevail.

The most frequent cause of increased exhalation from surfaces appears to be the increased circulation that not merely accompanies, but seems to make an essential part of inflammation. There are, indeed, very few cases of dropsy where a connexion with, and dependence upon, inflammation may not be distinctly traced; of which, thoracic dropsy, both of the pleura and pericardium, affords the most striking proof. This is scarcely less ob-

vious in regard to the cavity of the skull; where inflammation of the membranes obviously lays the foundation of all the more acute forms of hydrocephalus. In the abdomen, also, the same will be found, upon careful inquiry, to be the case; and if the presence of inflammation is less obvious here than in the thorax and cranium, it is because the functions that are carried on in the abdominal cavity are not so immediately important to life as in the other cases; the symptoms altogether are, therefore, less urgent, and less striking. The same effect of inflammation in producing increased exhalation is observed with regard to the cellular texture in general; much of the swelling that takes place on such occasions being attributable to this circumstance.

But it is not the most acute degree of inflammation, in any case, that has this effect: adhesion of the inflamed surfaces more commonly then happens, and the cavity is in consequence wholly or partially obliterated; while, in the case of the cellular membrane, the part is condensed and indurated, so that the natural texture is destroyed.

Now it is in dropsies connected with inflammation, in the way I have just described, that blood-letting, as well as other antiphlogistic remedies, is occasionally called for. In all cases of dropsy, therefore, that are submitted to your care, you should inquire first, whether they are founded in inflammation, and whether the inflammation still exists; and, secondly, whether the stage of the disease, as well as the other circumstances of the case, are such as to justify the use of this remedy.

The determining the former question is seldom a matter of much difficulty. The signs, both local and constitutional, of existing inflammation, are, in general, too obvious to be mistaken. With respect to the latter, or constitutional signs, much stress has been laid of late years upon the circumstance of the presence of albuminous matter in the urine of dropsical subjects, as serving to shew the particular character of the dropsy, and as affording indications with regard to the treatment. But the albuminous state of the urine is not peculiar to dropsy; it is rather characteristic of certain degrees of inflammation, whatever the organ be that is so affected. Nor is it decisive as to the employment of antiphlogistic means of cure—at least of blood-letting—for this must be governed by a general view of the circumstances of the case, as I have frequently before pointed out.

Much, also, has been said and written of late about a peculiar change of structure in the kidneys, and which consists chiefly in a granulated texture of the organ. This was first, I believe, particularly noticed by Dr. Bright, and is now familiarly termed by writers "Bright's kidney," such a degeneration of the structure being supposed the immediate cause of the secretion of albuminous urine. But there are many objections to this hypothesis, and which have been particularly pointed out by Dr. Graves, of Dublin, in his clinical lectures as recently published in the Lancet*. In the first place, an albuminous state of the urine may exist without such a condition of the kidney; and where it really exists, the urine at one time presents the albuminous appearance, while at another this is wanting. Albuminous matter is deposited, also, in the different cavities of the body in dropsy, as well as occasionally secreted by the kidney. The connexion, therefore, that is contended for between "Bright's kidney" and albuminous urine, can hardly be maintained. As far as I have observed, the presence of albumen in the urine is only found where febrile symptoms are present; and as the febrile state is always the result of inflammation, such a state of the urine serves only to prove the frequent connexion of dropsy with inflammation as its most general source.

Supposing, then, that either by local or general signs the existence of inflammation is shewn in any case of dropsy, we have to determine the propriety of bleeding by the stage of the disease and the general condition of the patient, in respect of his general strength and other circumstances, just as in ordinary cases of inflammation. If the disease is recent, and the habit tolerably strong, blood-letting is not only unobjectionable, but highly useful, and even often indispensable to the cure. It is in hydrothorax, perhaps, more than in any other variety of dropsy, that the inflammatory character is the most marked, and the advantage of blood-letting most frequently and distinctly seen. It is not a large abstraction of blood, however, that is wanted, nor, in fact, would such be safe. The irritability of the heart is so morbidly changed in these cases by the inflammation, that any great disturbance of its action, such as a large or sudden abstraction of blood is likely to produce, might prove immediately fatal. This does not apply to the deliberate loss of from four to six ounces, which, under the favourable circumstances mentioned, seldom fails to be followed by decided relief; while, provided the stomach is capable of performing its office well, many repetitions of the evacuation, with a few days' interval, may be borne with perfect safety, and, in not a few instances, with an abso-

* See the Lancet for October 20, 1838.

lutely curative effect, as I know from experience.

Many cases of general anasarca arise from thoracic inflammation, as is clearly proved by the symptoms; and the way in which the dropsy takes place is probably this: the thoracic duct becomes obstructed, either by participating in the inflammation, or from being pressed upon by the swelling of the neighbouring parts. The necessary effect of this is, first, impeded transmission; and, next, a cessation of the process of absorption. Blood-letting probably effects the cure of such a disease by putting a stop to the thoracic inflammation, the swelling produced by which gradually subsides afterwards. Such a gratifying result I have often witnessed in recent dropsies of this description.

Cranial dropsy, when recent, is also very generally accompanied with signs of inflammation, this being in reality the foundation of the effusion, as it is termed. A cautious antiphlogistic treatment is the only one likely to prove successful.

A not unfrequent variety of dropsy is that which follows scarlatina. This probably results from the previous inflammatory state of the skin and subjacent cellular texture, just as happens in various other inflammations. It is usually observed upon the decline of the febrile symptoms, but often before they have wholly subsided; arguing, therefore, a continuance of the inflammatory state. The idea of debility has been attached to this kind of dropsy as to most others; and tonics and stimulants of various kinds have been liberally administered, in accordance with this notion. This practice has generally appeared to me not only useless, but injurious, by aggravating the febrile symptoms, and keeping up the inflammatory state of the subcutaneous membrane. Generally speaking, medicine is superfluous in these cases, the disease gradually and spontaneously disappearing. If, however, the febrile symptoms run high, and the tongue is foul and dry, a small bleeding or two, in proportion to the strength of the patient, with purgatives and the digitalis, are of essential service.

You may easily transfer the mode of reasoning here employed to other varieties of dropsy, so as to deduce from it the proper mode of treatment. It is but too true, that few cases of dropsy are, or can be, cured. The reason is, that the disease in most instances is accompanied with so much visceral disease, as to defy the power of art. Much, however, of our want of success in the treatment of dropsy is owing to the neglect of inflammation in its early stage. Prompt and active blood-letting prevents dropsy in numerous instances, by putting a stop to the inflammation, which is, in a large proportion of cases, the real origin of the disease. Properly speaking, bleeding does not cure dropsy itself, but effects its purpose by removing the general cause — to wit, inflammation. I have never seen reason to believe that blood-letting, to whatever extent it be carried, produces real dropsy. The notion is, that it impoverishes the blood, rendering it more watery in consistence, and so thin as to be incapable of retention in the vessels. Now that repeated loss of blood changes the relative proportions of the component parts of the mass is no doubt true; the serous parts becoming augmented, while the crassamentum is diminished in proportion; and so far the blood presents a more watery appearance. But there is a fallacy here. On many trials, I have found that the abundant serum in these cases coagulates as entirely by heat and other agents, as it does where it makes a smaller proportion of the mass, which is therefore not so watery as it looks. There is less of fibrin, but not less of albuminous matter present. That dropsy, therefore, is producible to any formidable extent by blood-letting, I am inclined from observation to deny. An *œdematous* state of the lower extremities may thus take place in a slight degree, not owing, however, to the circumstance mentioned, viz. a more watery state of the blood, but to a weaker action of the absorbent vessels, by which the return of lymph from the extremities is impeded. This is seldom observed but in the lower extremities, and chiefly after they have remained for some time in a dependent position.

Upon the whole, you need not be deterred from the employment of blood-letting in any case of active inflammation, from the apprehension of its inducing dropsy; this disease, on the contrary, often arises from the neglect of it.

Some have ascribed dropsy to a torpid state of the capillaries, allowing fluid to escape from them in greater quantity than the absorbents can take it up*. Upon this ground we are directed to stimulate the capillaries to greater action; and the means recommended for the purpose are calomel, blisters, and the digitalis. But the fluid in dropsy does not ooze out from the pores or extremities of the vessels, but is the result of secretion, which is a vital process, and likely to be retarded rather than promoted by a diminution of action in the capillaries. The means of cure here alluded to may no doubt be useful on some occasions, though not upon the prin-

* See an account of Clinical Lectures delivered at the North London Hospital, by Dr. Thomson, Professor of Materia Medica in University College: Lancet, Jan. 4, 1838.

ciple supposed. The digitalis seems strangely classed with stimulants, for the purpose of exciting the action of the capillaries; but then it is said, in the way of explanation, that digitalis is a stimulant at first, but that when it is accumulated in the system to a certain extent, then it becomes a direct sedative. This to me, I confess, is not very intelligible.

I mentioned that dropsy, though generally the result of increased secretion or exhalation (as when it arises immediately as a consequence of inflammation), nevertheless is in some cases owing to deficient absorption, or—which soon comes to the same thing—impeded transmission of the lymph from obstruction of the absorbent vessels. This I instanced in the case of inflammation in the chest producing obstruction in the thoracic duct. A similar cause of obstruction may occur in other parts of the absorbing system, and with similar effect. The removal of the obstructing cause, whatever it be, is for the most part essential to the cure of such dropsies; and blood-letting is only applicable so far as it is capable of removing such cause. This you will readily understand from what has been already stated.

ON EXTERNAL PRESSURE IN PROLAPSUS UTERI.

By John F. Gray, M.D.
Of New York.

(*For the London Medical Gazette.*)

Prolapsus uteri has two essentially distinct forms, one of which has not been sufficiently noticed in our manuals of female diseases; I allude to a dislocation of the womb downward and slightly backward, the os tincæ tending toward the coccyx. The ano-perineal region of Velpeau, or the perineum posticum of the older anatomists, from relaxation of the levator and sphincter ani, becomes enlarged, and the triangular space between the point of the coccyx and the tuberosities of the ischian bones forms, in consequence, a broad deep *cul-de-sac*, into which the uterus sinks in the line of its own axis, and rests against the anus and rectum.

This posterior dislocation of the womb often takes place in pregnancy, particularly during the first four months; but it also takes place under other circumstances, I have no doubt, and that much more frequently than is commonly supposed.

Sir Charles Clarke* speaks of the uterus descending against the perineum, and there resting as upon a shelf. I have seen very many cases of this kind, in which there were vaginal discharges of various kinds, frequent false calls to go to stool, vesical irritation, and dragging pains in the lower part of the back and groins, from the utero-sacral and round ligaments being put upon the stretch.

Indeed, I believe nearly every case of confirmed fluor albus, not connected with the prolapsus of the books, is accompanied by this form of uterine displacement. If from an uncommon curvature of the sacrum backward, a large pelvis, increased volume of the uterus, relaxation of the ligaments, or any other cause, the ano-perineal region may be large enough to receive the impregnated womb as late as the seventh month†, and if retroversion of that organ does frequently take place after labour and after miscarriage, why should there not be procidentia or delapsus uteri in that direction as frequently at least as in the other? There exists, as far as I am aware, no anatomical impediment to the posterior dislocation, and the uterus, under the depressing forces of the abdomen, as in the act of defecation, must, it should seem, always tend toward the perineum posticum; and if the utero-sacral ligaments are somewhat more relaxed than the recto-vaginal septum, the fundus uteri would fall forward, and the whole viscus sink downward and backward in the line named, *i. e.* the axis of the superior strait of the pelvis.

The posterior displacement will be readily recognised by examination per anum. The finger will have to pass very much more backward than usual, to get around the os tincæ, which lies hard against the rectum, just above the sphincter ani, and is very perceptible to the feel of the surgeon.

In passing the finger per vaginam, the neck of the womb is first encountered, occupying the situation of the os uteri.

The os uteri is found lying against the rectum, its aspect being backward and downward toward the point of the

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* Observations on Diseases of Females, 2d edition, page 62.

† Vide Madame Boivin on Disease of the Uterus, page 73.

os coccygis, and the finger will have to be carried back in a curved form to reach it. The space between the os uteri and the posterior termination of the vagina appears much larger than natural.

In addition to the ordinary symptoms of prolapsus, the patient experiences a sensation, from the pressure of the os uteri against the rectum, of a foreign body lying in the intestine just above the anus, and feels as if she ought to void it by going to stool,—a peculiar tenesmus, the attempt to obey which, of course, only aggravates its cause. Besides this sensation, many varieties of leucorrhœa are dependent upon the posterior displacement of the womb. In fact, discharges from the vagina not traceable to syphilitic taint, and not arising from scirrhus or polypus uteri, are very apt to arise from this cause, and are to be remedied by the application of "Hull's utero-abdominal supporter," an external force which will be found to replace the prolapsed uterus with great facility, whether it be of the anterior or posterior species. This posterior dislocation of the womb may very readily be mistaken for internal piles, prolapsus ani, or even stricture of the rectum, and be accordingly maltreated.

Thousands of females afflicted with false disposition to go to stool, inveterate fluor albus, occasional menorrhagia, painful or irregular menstruation, urinary difficulties, dyspeptic symptoms, and anomalous sufferings in the back, loins, and pelvis, have the misfortune to be treated for these symptoms as so many separate maladies, whose cases arise from the posterior prolapsus, and might, by aid of Dr. Hull's apparatus for the external cure of prolapsus uteri, be speedily alleviated, with a fair prospect of radical restoration to health.

This subject should be carefully attended to in every case. The diagnosis is certainly not difficult, when assisted, or, as I may say, determined, by examination both per anum and per vaginam; and when it is fairly established that the womb has sunk back and down upon or into the ano-perineal region, the application of Dr. Hull's supporter ought not to be delayed.

The pessary in this case does no good whatever: it is thrust into the ano-perineal region, already rendered *a sac* by relaxation and by the presence of the dislodged womb, and there, as a really foreign body, excites the same sensations and keeps up the same irritation and discharges which the womb had done, and generally as may readily be supposed, the latter are of a very aggravated character; whereas the new instrument of Dr. Hull, by pressing the ano-perineal region upward and inward, directly opposes the descent of the womb, and at the same time diminishes the capacity of this region, whilst the hypogastric support of the apparatus prevents the descent of the abdominal viscera into the pelvis in a manner I shall hereafter notice. The cup-and-ball pessary of Bauhin, with its spiral spring improvement by Récamier, is not much better than the ordinary pessaries. It presses upwards and backwards towards the promontory of the sacrum, and not upwards and forwards in the axis of the superior strait, and therefore does not meet the uterus in a direction opposite its line of descent, but meets it an obtuse angle. I have nothing to add to the ordinary descriptions of prolapsus, but that they only regard those dislocations of the uterus in which its fundus falls downward and backward, and the os uteri traverses the vagina, appearing first at the vulva in complete prolapsus, and presenting first to the finger, in the incomplete or procidentia, and that in so far these descriptions are totally imperfect, excepting the remark quoted from Sir Charles Clarke, speaking of the kind I have described.

In reference to the causes of the various prolapses of the uterus with the accompanying displacements of the bladder and rectum, I beg leave to state my dissent from the received notions of relaxation of the ligaments of the uterus and the weight of that viscus being the cause of the displacement*.

In the dead body, the uterus cannot be pushed downward, even after an entire division of its ligaments †. And the vagina, which Dr. Dewees supposes to be the main support of the uterus, is always a flexible collapsed passage, except during the moments of orgastic turgescence. It is, besides, very frequently relaxed, and even inverted,

* Doane's Good, vol. ii. p. 472; Cooper's Dictionary; Mad. Boivin; Clarke, &c.
† Dewees' Diseases of Females.

without being accompanied by displacement of the womb. It seems to me really absurd to suppose the round ligaments, which are considerably curved, and therefore loose (not "tort,") with the duplicatures made by the peritoneum about the fundus uteri, which are certainly far from appearing like real ligaments, would support the womb against the enormous depressing force of the diaphragm and abdominal muscles, if the ano-perineal muscles and aponeuroses were removed; *i. e.* if the ano-perineal were divided and reflected back, or dissected entirely away. That nature never intended these falsely called ligaments to keep the uterus *in sitû*, is evident from their presenting no resistance whatever to the ascent of that viscus in gestation. Mr. Pott*, speaking of the proximate cause of hernia, says, "If the cavity of the abdomen is always full completely, the containing and contained parts re-act upon and reciprocally compress each other. It is by the effect of this moderate, but equal and unremitting pressure, that all the viscera mutually support each other. Without it the ligaments of the liver, those of the spleen and the various membranous bands of the intestines in general, would only be feeble means for fixing such parts in their respective situations.

"But there are certain points of the abdominal parietes which naturally present much less resistance than others. Such is, particularly, the part which extends from the pubes to the anterior superior spinous process of the ilium. This relative weakness of some points of the abdominal parietes is very marked in certain individuals, in consequence of a defect of organization. It may also be increased by internal or external causes. The conjoined powers of the abdominal muscles, diaphragm, and levator ani, are then directed and concentrated against the most feeble point of the abdomen, towards which they impel the nearest viscus, or that which from its moveableness is the most liable to displacement."

Thus an equilibrium in the containing muscular forces of the abdomen is fairly shewn to be more essential to the relative positions of the viscera than so-called ligaments are. But Mr. Pott has not alluded to the important and very obvious antagonism between the muscles of the perineum and the diaphragm, and oblique muscles of the abdomen—a consideration of the greatest consequence in accounting for prolapses of the uterus, or hernia of the pelvis. Velpeau, in his Surgical Anatomy*, makes the following forcible illustration of this view of the subject:—"The coccygei and levatores ani muscles here form a species of septum of diaphragm, which is a perfect antagonist to the thoraco-abdominal septum." The coccygei levatores ani transversales perinei, covered within by the aponeurotic fascia pelvia (Cloquet), and without by a strong subcutaneous layer or fascia, form a firm muscular septum, which closes the lower outlet of the pelvis, and which, from its moving with every respiratory act of the diaphragm, rising and falling in constant antagonism to the rise and fall of that septum, is certainly aptly called the lower diaphragm. I conceive *relaxation of this perineal apparatus*, whether caused by labours, coughing, lifting, &c., or by actual disease, weakening and attenuating its fibres, to be an essential condition to the existence of displacements of the pelvic viscera. The perineum, by which I mean all the parts enumerated, and they are so recognised by Velpeau and others, has to perform for a large space in the female, a resistance equal to very much of the depressing forces of the upper abdominal parietes: for the rest of the pelvis, being bone, lined with polished fascia, and of the form of an irregular inverted cone, reflects nearly all the forces they receive downward upon it; the only bony assistance it has is afforded by the coccyx, when fixed by its muscles and the levatores ani. If, then, this resistance be diminished, the perineal cavity must be increased, and the uterus must sink down, followed closely by the small intestines, propelled by the superior force of the upper muscles. A vacuum cannot certainly exist in the abdominal cavity; and as Mr. Pott justly observes, the moment the equilibrium (of muscular power) is lost, a displacement of some of the viscera takes place. That the intestines are displaced, and closely press upon the falling uterus, is

* Pott's Works, vol. ii.

* Dr. Sterling's translation, vol. ii. p. 259.

averred by Velpeau*, and, if I am not mistaken, by Sir Astley Cooper. As a powerful remote cause of displacement of the pelvic viscera, relaxation of the broad tendinous terminations of the external oblique muscles should not be overlooked. These tendons counteract in a considerable degree against the downward forces of the abdomen, and relaxation in them produces a fulness in the iliac regions which very much favours the descent of the abdominal upon the pelvic viscera.

I have seen several cases of distension of the inguinal regions very marked indeed, connected with dyspepsia, and premonitory of hernia, arising from relaxation of these broad tendons; but more generally in cases of descent of the intestines upon the pelvic viscera, the whole hypogastrium is enlarged, and the umbilical region flattened, and even hollows in accordingly.

I am convinced that more observation will detect this state of the abdomen in prolapsus ani and pelvic hernia, as well as in prolapsus uteri.

These views are ably set forth in a pamphlet addressed to the medical profession explanatory of Dr. Hull's utero-abdominal supporter†.

"In cases of long standing," says Dr. Hull, "the posterior portion of the vagina becomes very much distended, and the whole of the soft parts closing, the lower outlet of the bony pelvis assumes a pouch-like figure; and this unnatural cavity is filled by the (prolapsed) uterus and bladder, *held down by the displaced abdominal viscera.*"

If, then, the uterus be considered a passive body, and like most of the abdominal and pelvic viscera, held *in sitû* by the equally balanced muscular, tendinous, and bony walls of the great cavity and the correctness of the idea be admitted, that its displacement, at least in its unimpregnated state, is owing to relaxation of either the perineal or hypogastric portions of those walls, or of both—the *rationale* of Hull's external support against these weakened and relaxed portions is quite evident, and the solution of its undeniable success ceases to be a surgical enigma. Dr. Hull's apparatus has many advantages over the pessaries, which render it highly worthy the attention of the profession. In the first place, if there be scirrhous polypus, slight ulceration of the vagina or os tincæ, it is by no means injurious in its effects, but as I have seen it in each of these cases, proves beneficial; perhaps more so than any and all other treatment: whereas pessaries of every kind are totally inadmissible, however urgent the coincident prolapsus may be, and the patient is necessarily confined to bed incessantly, with but a meagre hope of restitution. This advantage obviously relieves the practitioner of great anxiety in regard to the diagnosis, which in these cases is often painfully difficult, and to me not seldom wholly impracticable, especially in the first eight or nine years of my practice.

2d. The evils produced by pessaries are wholly avoided; viz. the difficulties and unpleasantness of their proper introduction, frequent removal, cleansing, and replacement; and the inflammation and ulceration produced by them*, which are always tormenting, and sometimes fatal.

3d. The perineal wedge and strap of Hull's instrument, by pressing upon the whole median line of the ano-perineal region from the coccyx to the vulva, in an upward and forward direction, close the vagina from without, and tend to strengthen it, while its calibre is diminished; whilst the pessary of every kind distends the vagina, and tends to press it against the rectum and anus, producing many unpleasant sensations, and seldom if ever accompanied by salutary results.

4th. Hull's apparatus can *always* be applied in prolapsus, whereas it not unfrequently happens that inflammation or tenderness of the parts or incipient organic affections, prevents the introduction of pessaries entirely, and the patient is obliged to submit to confinement, strict regimen, and the like, for a very long time, which rarely fails of making lasting and serious inroads in her general health, even if the visceral displacement be removed.

[We understand that Dr. Hull's apparatus may be had of Mr. Higham, 279, Regent Street.—Ed. Gaz.]

* Ut supra, vol. ii. p. 287.

† A Brief Account of the Application and Uses of the Utero-Abdominal Supporter, &c.

* See Mad. Boivin, Cooper, and many other writers on this subject.

ON UTERINE HÆMORRHAGE.

By Robert Hull, M.R.C.S.

To me it seems that adequate attention is not always paid to the nervous connexion of the womb with the brain; so that complete tranquillity of mind, which should be aimed at by every accoucheur, is not always secured.

To a very great extent, the womb appears independent of what Bichat has termed the *vie animale*, and the growth, conservation, and expulsion of the fœtus, belong apparently to the *vie organique*, as their main and essential origin. I use these unsatisfactory terms, from want of better, in our present ignorance of the nervous system.

This independence of the womb may be collected from such an instance as the following:—

A young villager, of Costessey, near Norwich, about five months pregnant, staid out of doors during the whole night at a fair—one of those saturnalia which still disgrace our country and its legislators. She was speedily attacked with perfect paraplegia, and was utterly unconscious of the hand examining the womb per vaginam; yet she went her full period, and I was informed by Mr. Bond, the parochial surgeon, that she gave birth, unassisted, and easily, to a developed and living child, herself unconscious of its transit into the world. She died of her disorder some short time after. Here, therefore, utero-gestation and parturition were accomplished, independent of the cerebral system—the *vie animale*.

To me it seems that the womb resembles the other organs—thoracic, abdominal, pelvic; independent of the cerebrum, yet easily affected through it. How numerous are the proofs of mental influence displayed upon the heart, the digestive organs, lower bowel, kidneys, bladder!—viscera which act best when they are left to themselves, unaffected by mental commotion. It is, most probably, from this cause that the secretions of the cavities just now mentioned are most duly performed during sleep.

Of all the passions, terror appears to be the most potential. Witness the palpitating heart and hurried respiration, the sick stomach and relaxed bowels, the evacuating bladder—"the natural or universal language of this passion." Now, without disputation about words, *mihi de vocabulo pugna non est*, common sense assures us that fear acts by relaxation.

Yet relaxation is the very worst state for a parturient womb, especially an empty and unclosed womb. Whilst its muscular apparatus declines to contract, the smaller arteries yield to the *vis à tergo*, and the absorbent extremities of the veins are paralyzed. At this condition resulting from protracted labours, which waste the vital power, we cannot wonder. A furious labour, of hours, of days, of a week (and such has been witnessed), must leave the womb but little contractile energy, and hæmorrage occurs, the result of simple physical exhaustion.

But it is not difficult to conceive an equal amount of hæmorrhage, and yet the corporeal exhaustion less; the mind, fearful and despondent, producing a relaxation equal to that created through mere physical fatigue.

Nor is it marvellous that any woman should be terrified, when she perceives the consternation of her attendants, and the haggard features of her accoucheur. No wonder that, if she has begun to lose blood, she should now go on to flood.

This is one of many a crisis, when true science may be distinguished from spurious pretensions—from those of the practitioner, whose fame is as false as it is ignoble, founded on a systematic assumption of the merit of every favourable delivery, when the whole process has been performed by the organs of the credulous sufferer.

"Aderat fortuna, etiam ubi artes defuissent."

Accoucheurs of this sort may be found in every populous region; and it is surprising to witness the notoriety acquired, and the monies pocketed by tricksters, whose obstetric knowledge is only anile; who, when nature is at fault, are helpless and aghast; and communicate to their patients their own perilous terrors.

The influence of the cerebrum on the parturient actions, however essentially they may be independent, is well known to all accoucheurs of experience, who almost constantly witness illustrations. The intelligent accoucheur knows that gloomy conversation—narratives of disaster and death—weaken or suspend the most vigorous uterine action. What, therefore, may occur before the birth of

the child, may take place afterwards, when the placenta has been extruded. After a natural expulsion of the afterbirth, and a dense conglobation of the womb, mental emotion may abolish the contractile action, and hæmorrhage be the result.

A case of recent occurrence I think illustrates my theory. A lady, whose previous labours had been hæmorrhagic, was seized with a post placental flux, which brought her to extremes. The pulse was imperceptible. A very strong opiate, sixty drops of the liquor sedativus, succeeded by liberal potions of diluted brandy, produced a sleepy state; and, during the snatches of sleep, her pulse became distinct and regular, although it was very rapid. Every time she awoke from these transient naps, her pulse lost its development. This phenomenon I believe to have resulted from mental commotion, in a patient of delicate fibre and sensitive mind. This lady recovered.

And I think I may venture to say that the *post placental* hæmorrhage most usually is the misfortune of patients of this crasis rather than of an opposite. That it occurs less often, and as an exception, in the coarse and careless parturient

I am informed that uterine hæmorrhage is, comparatively, very rare in the parturition of the lower animals. It is not illogical to infer that this immunity is owing to their comparative freedom from moral influences. I say "comparative," because I cannot hold with the dogmata of those philosophers, who have maintained that the brute animals are simple machines, moved without spontaneity; nor with others, who evade a solution of their mental and moral phenomena, through the use of the term instinct—a mere term, without any satisfactory ideas.

"*Manifestum est, non minori tantum cognitionis vi, quam homines pollere, sed rationis prorsus esse expertia, non humana tantum cognitione carere, sed quâcumque aliâ, quæ fingi potest, esse destituta; uno verbo automata esse, et non delectu, sed mero impotu agere.*" This philosophical tomfoolery will not be easily conceded to Antony Le Grand.

Impressed with the opinion that many cases of *post placental* hæmorrhage depend on mental commotion, I administer, almost always, when the placenta is detached, a powerful opiate, varying in strength according to my apprehensions, founded on the history of past labours, the sensitive *morale* of the woman, or general circumstances.

I believe that this practice has been satisfactory; that by sending the patient into a cerebral repose, if not sleep, and thus leaving the womb to itself, and its ganglionic energies, I have prevented hæmorrhages, which would otherwise have occurred from the relaxing uterus.

This, however, it is impossible to demonstrate, because the argument is of a negative character; as the relaxation may not have occurred, even without the use of a narcotic. But after a practice of twenty years, a man may arrive at a well-founded belief, although he cannot detail the numerous, varied, and complex phenomena, wherefrom he argues, to the clear comprehension of an auditor. There is a conviction derived from experience, which the rules of the schools cannot impart; nor the language of the schools render intelligible.

When *post placental* hæmorrhage proceeds to influence the heart and arteries, no time should be lost. I have never feared in this distressing and critical condition to administer wine or ardent spirits most liberally. I know that to this proceeding is opposed a horror, in some minds, of "stimulating empty vessels." But this means less than it expresses; and perhaps it means nothing at all, since no living vessels are perfectly empty; they are only less distended: and if vigour and contractile resistance to the *vis à tergo* be given to the extreme vessels, this is the very effect we covet.

The administration of opium seems inconsistent with that of alcohol; and he who has thus prescribed, has been challenged "to reconcile his practice with reason." Yet this is not so very difficult, if we consider that a liberal supply of ardent spirits produces, like opium, a narcotic influence on the brain; the very object of my endeavours in hæmorrhage. But granting even, if any person demand it, that opium may be a stimulus, even on this assumption the benefit of the drug is deducible. The stimulus mainly acts on the cerebral system, and dispels that anxiety which I suppose to exert a paralyzing influence on the muscular fibres of the womb. The loquacity induced by those liberal potions of alcohol,

which Dr. Blundell prescribes, as reported in his published lectures, proves, I think, that anxious terror has been dissipated by them. And if opium only acts in this way, and to this degree, who will despise its agency?

I believe there is no department of medicine which demands from the practitioner a cheerful, encouraging demeanour, so urgently as the obstetric. And, looking round me, I think I can trace their success as accoucheurs, in the case of many famed midwives, to their hilarity and habitual self-possession. On the contrary, I think I have ascertained that a surgeon may be a very intellectual and accomplished person, and yet "unfortunate" as a midwife, from the very gravity engendered by his real science and profound valuation of human life.

In what way the mind affects the womb must remain a mystery, while we continue in the dark as to the nervous power. Since the womb can conduct its expulsive process, although disconnected from the brain, as shewn in the paraplegic girl of Costessey, we should incline to discredit any cerebral influence. But the fact is positive. The mind does frequently suspend the contraction of the womb. In these cases, therefore, the power which it subtracts, it may previously have conferred. Perhaps the truth is this, that although the womb is essentially independent, and can, in extraordinary cases, manage for itself, yet in usual, natural instances, it derives from the cerebrum a certain and natural aid.

Nothing, since the discussions on the "excito-motory" system, has, I believe, been elicited to throw light upon this uterine subject; and may heaven prevent any bloody experiments on the lesser animals! My heart sickens at the narratives of these miscreant, murderous philosophers; on whom, if I wielded despotic sway, I would most assuredly perpetrate their own cuts and manglings. What proportionate benefit has resulted from the terrible amount of animal suffering? what frightful agony has been inflicted for no definite object, or for objects just as attainable without zoicide, or not valuable after all?

Discovery, in the medical art, if to be made through the wilful torture of animals, is obtained so deplorably, that a man should anxiously satisfy his conscience, that he enacts no indefinite, childish mutilations. Mr. Grainger, in his philosophical brochure on the Excito-Motory System, has inflicted a just castigation on one of these reckless men of blood, whose numberless assaults on his majesty's liege beasts, made him, when torturing in England, a subject of parliamentary discussion.

For students of physiology, who, undirected, unsanctioned by their preceptors, dare to mutilate God's creatures —for those incipient practitioners, who covet a small fame, as philosophers, from their admiring relative and lay-friends, by the diabolical mutilation of living dogs, cats, and rabbits—I commend them to the mercies of the magistrate, who surely can punish their brutality under the Act "against cruelty to animals;" a legislative enactment, which confers enduring honour on its generous, brave, and tender-hearted projector, Richard Martin. It is impossible to recal the exertions of that noble fellow without deep regret that his manly philozoical career has long since terminated in the grave. "Præcipe lugubres cantus, Melpomene!"

To conclude, I would impress on junior practitioners my own deep conviction, that they cannot attend too much to the mind of their parturient patients, whether to prevent or to restrain hæmorrhage. This catastrophe, always terrific, is at times awful; yet they must resolve to put a good face upon the matter, and, whatever they may feel or fear, they should evince no more emotion than a statue or a quaker.

Whether after the expulsion of its contents hæmorrhage be ascertainable, or previously internal hæmorrhage be only suspected, the man who terrifies his patient by his looks, or tells her, as I have known her told, that she is in danger, so paralyses her uterus—the very part on which all hope depends —that he must, whatever his practice or his fame, be accounted an unphilosophical midwife.

As a physical appeal to the uterine muscle, the accoucheur will find the secale cornutum marvellously powerful, whether the fœtus and placenta be within or extruded. Indeed, it is sufficient to say that uterine contractions are by the secale produced; and the common sense of the midwife will tell him how admirable an agent it must be in hæmorrhages from the womb. I am aware

that an accoucheur of great name continues to despise the ergot, in spite of the mass of favouring evidence. Such incredulity is interesting, and reminds one of a living sceptic, who said to me, "I believe nothing which I hear, and only half what I see."

I attended Mrs. S. at the birth of her eighth, ninth, and tenth children. The detachment of the placenta each time was succeeded by hæmorrhage most alarming; in the last case, awful. In this, when the prostration was urgent, I gave most liberally alcoholic stimulus. Mr. Johnson was summoned to my assistance, and the symptoms, all but fatal, gradually yielded.

Her escape was so narrow that I resolved to try, in any subsequent labour, the preventive influence of the secale cornutum. This patient had been delivered in her seven prior accouchements in Yarmouth; and, from her account, each labour had been succeeded by terrifying losses.

At her next parturition, the eleventh, I found the os uteri patulous, the vagina lubricated and yielding, and the pains regular. I directly administered the tincture of ergot, which excited rapidly an energetic pain; and this did not cease until the womb had discharged all its contents. No hæmorrhage whatever occurred, for the first time after so many labours.

In a subsequent labour, in the year 1837, she was treated similarly and successfully.

From numerous cases I can no more doubt of the influence of the ergot to produce uterine contraction than of my own existence; and I have given it with impunity in larger doses, more rapidly repeated, than I have seen prescribed in any work. The tincture, or Bass's concentrated essence, I use for the sake of convenience; but a fresh infusion tells best. Having decided that the case demands this provocative, I look less to the measure and number of the doses than to the influence they exert.

If the junior accoucheur keep in his mind the paramount object—to wit, the contraction of the womb—he will avoid much that is absurd and much that is disgusting. Sitting upon the abdomen of the patient, with or without "the family-bible" interposed, I call absurd, since no such pressure can place in precise contact the walls of the uterine cavity, and mechanically close the vessels. Thrusting the hand and arm into the womb, and pouring cold water over the naked belly, I call disgusting, barbarous, and to be religiously eschewed if possible.

Norwich, Oct. 31, 1838.

ACUPUNCTURATION IN ASCITES.

To the Editor of the Medical Gazette.

Sir,

If the following case and remarks are worthy of a place in your valuable journal, they are at your disposal.

I am, sir,
Your obedient servant,
Jas. Campbell,
District Surgeon to the Eastern Division of Calton.

12, Millroad Street, Calton,
Glasgow, Oct. 29, 1838.

Eliza Stevenson, residing in Cockburn's Close, aged 30, of middle stature, constitution originally good, but now rather debilitated, came under my care as a pauper patient in December last, labouring under ascites of three weeks' standing. The various remedies that are usually prescribed in ascites were had recourse to, such as squill and supertartrate of potass, squill and calomel. The calomel was pushed until slight ptyalism was produced, yet the disease did not yield. After the ptyalism had gone off, the bowels were well acted on by means of hydragogue cathartics. The disease still made progress; the respiration became very much impeded; the abdomen was distended so enormously that it measured fifty-thre inches around the umbilicus. No medicinal agent having been administered for two or three days, I resolved to make trial of acupuncturation, which was accordingly done on the 10th February, when upwards of twenty punctures were made with a fine sewing needle $2\frac{1}{2}$ inches long, attached to a handle. The punctures were made generally over the whole anterior part of the abdomen; some were attempted to be made toward the lumbar regions, and failed, on account of the obliqui muscles contracting, carrying the point of the needle in a lateral direction.

11th.—Complains of sharp shooting pains passing through the abdomen, the

skin of which feels tense; pulse quicker, feverish.

12th.—Immediately after yesterday's visit, says she began to perspire, when the febrile symptoms went off, since which has passed more urine than she has done for these four days past; abdomen œdematous.

14th.—Continues to improve; abdomen measures forty-seven inches.

17th.—Abdomen still decreasing.

20th.—Abdomen measures forty-three inches.

23d.—For the past three days the disease has been stationary. Calomel and squill were now ordered, the only medicines given since the operation. I learned afterwards that by the 2d of March she was completely free from her dropsical symptoms, measuring only thirty-six inches; and up to the present there is no return of the disease.

Remarks. — That acupuncturation acted a remedial part in this case, appears evident from the fact, that no medicinal agent had been administered for two days, at least before the operation, nor until thirteen days after it, by which time the abdomen had fallen ten inches; also, the marked change in the symptoms, commencing the day after the operation, confirms the more. The *modus operandi* of acupuncturation is as yet involved in mystery. Mr. King's opinion, whose case is recorded in Nos. 2 and 9, of the first volume of the Medical Gazette, for the Session 1837-8 is, that the fluid oozes from the cavity of the peritoneum into the subcataneous cellular tissue, no mention being made as to whether the absorbents are stimulated to action by the puncturing or not. Dr. Elliotson, in the Cyclopædia of Practical Surgery, article Acupuncture, says, "The effects of acupuncture are not deducible from counter-stimulation, for they are sometimes most remarkable when such stimulation has been scarcely felt." With Mr. King's opinion I perfectly agree, from the tense and œdematous state of the abdominal parietes, the day after the punctures were made; but with Dr. Elliotson I cannot so readily agree:—the sharp shooting pains, the quick pulse, the heat and fever, experienced by my patient, during the twenty-four hours after the puncturation, can alone, in my mind, be attributable to the counter-stimulating effects of the punctures. Mr. King made few punctures at a time, and repeated these every second or third day: from the results of the present case I should rather be inclined in all cases to puncture freely at first. That it be necessary to repeat the operation I have no doubt; yea I should deem it advisable toward the termination of the disease, to repeat the operation, for the purpose of establishing a more permanent cure, which I certainly would have done on the 22d, the day the calomel and squill was ordered; but I was then labouring under the first symptoms of typhus, and it was not until the month of May, that I learned of the successful issue of my case. In performing the operation, the needle was passed quickly, with a rotary motion, rotated freely when introduced, and during the time of extraction, when a drop of fluid appeared at the orifice: no pain was felt except when the needle was attempted to be passed, toward the lumbar region. From the result of Mr. King's case, and that of the present, I certainly would in all cases prefer the operation of acupuncture to that of tapping.

USE OF OIL IN PAINTER'S COLIC.

To the Editor of the Medical Gazette.

Sir,

An interesting case of colica pictonum has just occurred to me; I should therefore, be obliged by a corner for it in the Medical Gazette.

The subject was 19 years old, stout, an apprentice to a painter. It was his second attack, the first being about a year ago, at Nottingham. He was then attended by several medical men, on account of the severity and obstinacy of the disease.

The most important circumstances in the case were, firstly, the apparent means of recovery; then the heavy aching pain along the dorsal vertebræ, with agonizing tormina in the belly generally; the dirty ashen colour of the whole surface of the body, the complexion being fair during health; and the dark tarry consistence of the blood, with a small and slow pulse (56 per minute.)

I shall not trouble you with a detail

of the symptoms; they were those of colica pictonum.

Large quantities of calomel, solid opium, laudanum, castor oil, several bulky clysters (the last containing Sp. Tereb. ℥ii) were given during the twenty-four hours succeeding my first visit, but without much effect on the complaint. Some relief to the pain, however, was derived from a sinapism to the whole abdomen. Very little blood was drawn.

At this time I asked the patient what had done him good on the previous occasion. He said, a quantity of goose grease and yeast; that this procured an evacuation when all other remedies had failed. I immediately ordered him to take about four ounces of the mixture in equal proportions; and a hard motion was the speedy consequence, together with considerable subsidence of the colic. Another dose was given the next day with similar good effect, and he has gradually recovered. He had been ill more than a fortnight without advice.

Moderate salivation was established in forty-eight hours after beginning the use of calomel and opium; but seeing that ease was procured before this period, and that these medicines had, in all probability, been unavailing in the first attack, I attribute the recovery solely to the yeast and melted fat.

My inference from this case is, that olive or castor oil, in large quantities, either or both by mouth and per rectum, should be made more prominent in the treatment of this frightful, but not often fatal, disease. The oils, I understand, are employed largely in Sheffield; but little is said about them in books.

I am, sir,
Your obedient servant,
JOHN J. BIGSBY, M.D.

Newark-on-Trent,
Oct. 10th, 1838.

MEDICAL GAZETTE.

Saturday, November 10, 1838.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

CASES OF MALAPRAXIS.

WE believe that no one in this country has attempted to form a collection of instances of malapraxis, or to shew, by a nice gradation of cases, in what variety of ways a practitioner may be criminal, or blameable, or barely justifiable. Something of this kind has lately been done in Prussia by Dr. C. F. Koch, who, in a very elaborate article in Rust's Magazine, has given and classed a number of cases of malapraxis, confining himself, however, to those which have occurred during ten or twelve years in a single province. It will be interesting to our readers if we select some of Dr. Koch's histories, as they will not merely exemplify the way in which such matters are managed in Prussia, but give a few useful hints for the investigation of similar occurrences in England.

In the following case the accusation was, that Dr. X. had violated his duties as an accoucheur. A midwife was called to the labour of Mrs. D., the wife of a working man, who three years before had been delivered of a stout boy, with the assistance of Dr. X. She found the left thigh of the child, almost as far as the abdomen, already born, but from the weakness of the pains, she wished to have the aid of the accused. He came immediately, but on account of having before been insulted by the husband, and not having received his fee, though he had often asked for it, he refused to deliver the woman, and sent the midwife to the burgomaster, for an order to be paid out of the town-chest. The midwife returned, not having succeeded in her commission, and found him gone. In about three-quarters of an hour stronger pains came on, and the midwife succeeded in bringing a dead child into the world. A quarter of an hour previously the child was alive, according to her statement; for when it was born as far as the shoulders, she laid her hand upon its chest, and felt the heart beating. The head could not get disentangled until a quarter of an hour

later, after the arms were freed. The mother had felt the motion of the child, though not strongly, until a short time before the commencement of delivery.

The question proposed by the Criminal Court to the Medical College was, "If proper assistance had been given, *might* the child have been brought into the world alive?" This was answered in the affirmative, because the child was alive till the time of birth, because there was no prolapsus of the funis, and because the child's head had been delayed a quarter of an hour in the smaller aperture of the pelvis; now this dangerous period could not be shortened by the midwife, but might have been by the forceps of the accoucheur. They added, however, that the saving of the child's life by judicious artificial assistance must, at the utmost, be considered merely as probable.

The sentence of the tribunal of the first instance was based on the supposition that a physician is not, as such, an official personage, but without being a public officer, is *only* especially devoted to the public weal; by which it seems to be intended, that though obliged to serve the public, he is not quite so much obliged as if he held an official station. They added that there were no special punishments assigned for the wilful neglect of the duties of an accoucheur, whence it appeared that when no damage arose through his neglect, the accoucheur is not punishable; yet that the accused would have been liable to an imprisonment of a year's duration, had it been made out that the death of the child was caused by his gross neglect; but under existing circumstances he was merely condemned to a fine of 100 dollars (16*l.*)

The tribunal of the second instance mitigated the fine to 20 dollars (3*l.* 4*s.*), and laid it down that a physician is unquestionably an official personage, and that the accused was guilty of gross negligence in his vocation. The legal punishment was, in consequence, a fine, which, from the extenuating circumstances, the former insults of the husband, and the numerous testimonials in Dr. X.'s favour, was mitigated to twenty dollars.

A curious point in this judgment is, that the higher tribunal diminishes the fine, although by declaring the accused to be by his profession an official person, it seems to exact more from him than the inferior court. The illegality of the accoucheur's conduct consisted, we suppose, in going to the labour, and then refusing to do any thing; for we presume that he might have declined attending the case altogether. And yet, perhaps, his title of official personage might imply that he must necessarily attend when summoned by a midwife. It is clear that the half-educated midwives of Prussia, and other continental states, are a great blot in their medical arrangements. To entrust the majority of labours to women so ignorant that they are obliged by law, as well as by their own incapacity, to call in asssistance in almost every difficulty, seems a very awkward way of doing business. The general poverty of the inhabitants, and a preference given to women may, of course, partly account for it; yet one would imagine that in the well-drilled population of Prussia it would be easy to force such a quantum of education upon the midwives as would render them adequate to struggle with all the ordinary emergencies of their profession.

The next accusation is against one of these unfortunate *sages-femmes*, whom the law supposes not to be very sage.

Mrs. Z., aged twenty-three, was safely delivered of her first child, but

the placenta did not come away. The accused says she told the woman to be patient, and not to bear down. Mrs. Z. suddenly called the midwife away from washing the child, exclaiming, "It's all coming out down here", and on going up to her, the midwife found the placenta, together with the uterus, protruding beyond the external parts. She dipped her finger in oil, entirely detached the placenta, and endeavoured, but in vain, to replace the uterus, which was of the shape of a small head. In three quarters of an hour the woman died; but she had not lost much blood, according to the midwife: there was only a small quantity under the straw bed. The mother of the deceased, however, contradicted these assertions, and deposed, that the midwife, after the birth of the child, had told the woman to bear down when a pain came on. Moreover, she had got into the bed, and squatted *(niedergekauert)* between the extended thighs of the woman, and had repeatedly worked with her hands in the genitals of the witness's daughter, though an apron which she spread over prevented more accurate observation. When the uterus prolapsed, the accused cried out, "What is that—that's not a child—I don't know at all what it is"! Her daughter grew pale, and there was a great gush of blood: the protruded uterus was double the size of a man's fist.

Several hours afterwards Dr. R. came, who recognised it to be a case of inversion of the uterus, and felt persuaded that the woman had bled to death. Remnants of the placenta, fresh in appearance, and of the size of a cherry, were adhering to the inverted uterus, which was easily replaced. The body was not opened, but its aspect sufficiently shewed the entire deficiency of blood.

The College gave it as their opinion, that although not proved, it was in a certain degree probable, that the accused, either directly by violent pulling at the funis, or indirectly by inciting the woman to bear down, had caused the inversion of the uterus, especially as it did not take place till a considerable time after the birth of the child. But at any rate she acted contrary to rule, in separating the placenta from the uterus, even if it were already partially detached. The accused, too, did not shew the necessary presence of mind and skill by quickly replacing the uterus—an operation which it was requisite to perform instantly; nay, it is doubtful if she recognised the condition of the deceased. She confessedly very soon desisted from her attempts at replacement, and set about making warm milk poultices.

They observe, in conclusion, that although inversion of the uterus is always a most dangerous occurrence in labours, yet it is not proved that the accused caused the death of the woman by her mistakes alone, as the cause of the inversion remains doubtful.

We are surprised that the midwife is not blamed for having neglected to call in better advice at an earlier period, as there appears no reason to suppose her capable of managing so alarming a case without assistance.

The last case which we shall give is one in which a surgeon was accused of ignorance and neglect:—

A tailor, named S——, deposed that his wife, aged 45, had an easy and safe delivery on the 7th of October, and went on well for ten days afterwards. After considerable vexation she complained towards the evening of violent shivering and headache; and in the night there came on heat and pain in the right side of the abdomen. Next day the pain extended to the right shoulder, with great heat and loss of appetite. On the twelfth the advice of

the accused was asked. He prescribed a grain and a half of opium, and half a drachm of rhubarb, to be taken at twice within two hours; and an ounce and a half of Glauber's salt, to be taken dissolved in eight ounces of water. After these remedies the patient lost the pain, but felt as if her heart would make its way out. She complained of want of air, and of pain in inspiration. The laxative was continued, with the effect of sinking the spirits of the patient. Nevertheless, the next day the accused continued the medicine, and on the fifteenth day the disease seemed to diminish. The accused now prescribed nitre and camphor in solution; but after half the mixture had been taken, the sense of anxiety about the chest increased, and the patient died towards evening.

The Board, in giving their opinion, thought it might be assumed with great probability that Mrs. S—— was labouring under inflammation of the liver, and inferred from this supposition that the treatment was not only not suitable, but mischievous. Moreover, the accused was censured for his want of attention in ordering the powerful remedies first prescribed, without a personal examination of the patient, whom he did not visit till three days had elapsed, during which her condition grew worse.

Nothing is said in this opinion about his having overstepped his privileges (by prescribing in a medical case, we suppose), though this is one of the items of accusation in the heading of the narrative.

We must reserve our commentary upon this case for another occasion, when we shall also give some more of Dr. Koch's instructive histories.

ENDERMIC MEDICINE.

This method of administering drugs may be considered as quite recent; for though some hints on the subject are to be found in the writings of the Greek physicians, it can hardly be said to have been practically adopted until about ten years ago, when Bally published the result of his experiments. According to him, medicines are more powerful when applied as near as possible to the origin of nerves, and upon a great number of small surfaces, than if placed upon a single large one. Injurious effects are counteracted by removing the drug and applying a cupping glass to the exposed surface. He chiefly experimented with narcotics, and thought that the effects were clearer than when they were administered internally. Lesieur tried several remedies, and found that the choice of the spot was a matter of indifference.

Sect. 1.—Method of applying the remedies.

Removal of the epidermis.—The cuticle must be destroyed, in order to reach the rete mucosum, where the skin has the power of assimilating. For this purpose, Bally, Lesieur, and Lembert, employed blisters; but to produce the effect more rapidly, Lesieur recommended the use of cotton dipped in sulphuric acid, of hot water, ammonia, or strong acetic acid; or grazing the part with the bistouri. Lembert always preferred blisters. Hoffman introduced the drugs into leech-bites, or incisions in the skin—a method which he afterwards gave up. At a later period he preferred dipping a knife or a knitting-needle into boiling water, and then pressing it against the skin so as to cause excoriation. The spots for introducing the drugs were to be frequently changed. Dr. Richter rubs the spot with a solution of caustic ammonia, and places a blister over it; and, after applying the drug, puts on a bandage with a suitable ointment.

Number of spots.—A single spot, provided it is relatively large, is usually sufficient. Bally, however, recommends several small ones, and so does Trousseau in rheumatic affections.

Choice of the part.—A spot is to be chosen, where the cuticle is easily destroyed, and where absorption is the strongest, at the same time that it is as near as possible to the seat of disease. In nervous maladies the neighbourhood of the central organs is to be preferred; but if in nervous maladies, a more local effect is intended, a spot more remote from the central organs must be selected; this holds good especially of narcotics.

Time of continuing the application. — In general, the effect soon shows itself; and therefore on account of the secondary effect of remedies, this method must not be continued long. It is only when the result of the first trial is advantageous that it may be repeated.

Form of the remedies.—The vegetable alkalöids, particularly the soluble ones, are the most efficacious endermic medicines, and these are best applied in the form of powder. When the doses are small or difficult of solution, it is well to add a little sugar, and to dissolve the whole upon the exposed spot with a drop of water. Dr. Richter previously dissolves resins in a little spirit, and then puts them on a bit of linen spread with simple ointment. Very irritating substances are advantageously enclosed in a mass of plaster, or placed between folds of thin linen or gauze.

Dose of the remedies.—The more soluble the substance is, the smaller must be the dose to begin with; and this is especially true of narcotics. With them the commencing dose should be only one-eighth, or, at most, a quarter of a grain; and less, if the patient is a child, or if the medicine is applied in the neighbourhood of the brain or spinal marrow. With other remedies, which do not act directly upon the centre of the nervous system, we may be bolder, and particularly if they are not easily soluble. Whether they are to be repeated, depends on the effect and the disease.

Effect of the remedies.—This is divided into the local and the general. The first is the result of the irritation of the spot in the skin by the remedy, and appears to be more or less inflammatory, and even caustic. It is necessary that this irritation should be moderate, that the power of absorption may remain; a more violent degree is mitigated by warm poultices. The general effect has hitherto been observed only in the case of narcotics. When other remedies are administered, no particular effect appears in systems or organs, or only a specific one, shown by the direct removal of the disease, as from quinine in ague. Narcotics act quicker through the skin than through the stomach, but do not affect the central parts of the nervous system so soon. They do not act upon the vascular system until narcosis has been produced. No other remedies show their effects until after a longer application. When remedies are applied to the skin, the intermediate agents in producing the effects are the superficial nerves and the absorbent vessels.

Application of the remedies —The endermic method is most efficacious in cases where the passage to the stomach or the intestines is obstructed, or where, from diseases of these parts, remedies cannot be administered internally; and also when we wish to avoid secondary effects, such as excitement of the vascular system. As narcotics have hitherto shown the greatest activity, the method is particularly applicable in purely dynamic and idiopathic pains, which have no material foundation, (especially in the central organs); but have their seat in the superficial nerves. Nevertheless, time must not be trifled away in this manner, if there is a more certain mode of cure, otherwise we should not only be guilty of a fault of omission, but should injure the patient directly.

Sect. II.—Effect and application of the several remedies hitherto introduced by the skin.

Morphia.—The primary soothing effect of morphia (which takes place more rapidly when applied externally than when administered by the mouth) is not caused by absorption through the skin, but by a continuation of the excitement of the superficial nerves, influenced, however, by the vicinity of the spot to the affected part. If the application is long continued, it passes through the absorbent vessels into the mass of fluids, and thus by its secondary effect on the vascular system, produces a narcosis which lasts longer than when it is swallowed. This may be explained, if we consider that when morphia is introduced into the stomach, nature makes an attempt in the vascular system to counteract the poison, and thus the storm in the nervous system is quelled; whereas, this is the seat of the poisonous excitement when the drug is applied through the skin. As it is uncertain how great may be the sensibility to this remedy, it is advisable, particularly if it is introduced near the central organs of the nervous system, to begin with small doses, such as from $\frac{1}{8}$th to $\frac{1}{4}$th of a grain a day. Its effects must be observed, and the quantity gradually increased; but the application must be discontinued as soon as headache or giddiness comes on.

Acetate of morphia.—This preparation has been preferred on account of its solubility, and the mildness of its effects; and when properly combined and rubbed in, it has shewn its powers, even though the cuticle had not been removed. It has been particularly used—1. In trismus and tetanus, especially when caused by external injuries, or by mental affections, in which cases it has been used by Lembert, Cerioli, and Romberg. 2. In spasms without a material cause. 3. In poisoning by strychnia. 4. In diseases of the

respiratory organs, namely, chronic catarrh, chronic bronchitis, and phthisis, by Lembert, Lesieur, G. H. Richter, and Romberg.

Dr. Richter found it most efficacious, when all inflammatory irritation had been removed, in pulmonary catarrh, inflammation of the larynx, trachea, bronchi, or pleura, and even in pneumonia, at the end of the second stage, when the secretion in the respiratory passages had abated, and the patient was tormented by a spasmodic cough. 5. In hooping-cough. Here, in general, the results have not been favourable. Berndt, who used it most frequently in this disease, found it had no effect unless when pushed till it began to produce narcotism. Dr. Richter has not applied it, but says it is to be introduced in the cervical region, as Romberg has proposed. 6. In rheumatism. Here it has been advantageous, when there was neither fever, inflammation, complications, material causes, nor dyscrasia present; for in such cases a previous suitable treatment is required. It was of particular efficacy in fixed rheumatism, without either fever, or gastric complication, in rheumatic spasm, or tooth-ache, in fixed pleuritic pains, lumbago, and ischias. 7. In neuralgiæ. When they are not caused by inflammation or material irritation, but are purely nervous affections, they offer an extensive field to the endermic application of this drug. 8. Dysuria, when purely spasmodic, has been successfully treated with it. Dr. Richter intends in future to use camphor, either alone, or combined with morphia. 9. In vomiting, it has been advantageously employed when there was spasm and increased irritability of the stomach and intestinal canal; in scirrhus of the pylorus, its external application as a palliative was more beneficial than its internal use. 10. In delirium tremens. Here the advantages resulting from its employment, as witnessed by Gerhard, would incline one to use it in the cases in which the internal use of opium is indicated. 11. In dysentery. It was advantageously employed by Gouzée, and Dr. Richter advises it in the second stage. 12. In cholera, Hübenthal, of Riga, has seen it quiet the vomiting better than when administered internally. 13. In cancer of the uterus it acted as a palliative, according to Lembert. 14. In intermittent fever it is recommended by Dr. Richter, in those cases only where the disease appears as a purely nervous affection.

Sulphate of morphia.—Hofmann and Gerhard prefer this preparation to the acetate, on account of its greater solubility. The former used it in periodic ophthalmia, hysteric attacks, chronic rheumatism of the joints, hooping-cough, spasmodic cough, and cancer of the uterus; but his results shew that far from being better than the acetate, it is inferior to it.

Hydrochlorate of morphia.—Trousseau and Bonnet, in consequence of the favourable results of their trials in rheumatism, give the preference to this salt of morphia, like the former one, on account of its greater solubility.

Effect of opium applied to the skin.—Dr. Richter supposes that when the endermic method is employed with children, opium may be better than the preparations of morphia. By combining opium with quinine in this way, he cured an obstinate intermittent neurosis.

Strychnia.—Pure strychnia, and its nitrate, sulphate, and acetate, have been used, and seem to have been employed promiscuously. They first acted as stimuli to the nerves of motion, then on the sensorium, and lastly on the vascular system. The effect was not so violent as when swallowed; yet, according to G. H. Richter's experiments, they require the greatest caution. The commencing dose is to be from one-eighth to one-sixth of a grain daily, which is to be discontinued as soon as twitchings, or even headache and giddiness come on; and acetate of morphia is always to be at hand, being the strongest antidote. Strychnia and its preparations must never be used with children. Dr. Richter found the extract of nux vomica uniformly advantageous in paralysis of the extremities, when it had come on after taking cold severely, without the existence of organic disease of the brain or spinal marrow, and particularly in what is called spasmodic paralysis; and so did Bally, Lembert, and G. H. Richter, when the paralysis arose from poisoning by lead. In G. H. Richter's practice, too, it cured a case of paralysis of the vocal organs, produced in a hysterical woman by taking cold. It was also efficacious in paralysis of one half of the face, in idiopathic amaurosis, and in neuralgia; but in St. Vitus's dance it was powerless. On the whole, it is useful only in purely dynamic nervous diseases, when sensibility and irritability are lessened. Dr. Richter suggests the endermic administration of brucia.

Extract of belladonna.—Dr. Richter has found this useful in spasmodic affections of the thoracic organs, and of the stomach, in which he applied a solution of a scruple of the extract of belladonna in two drachms of cherry-laurel water, with a hair-pencil. He recommends it in the catarrhal affections of very irritable persons—in the second stage of inflammatory catarrh of the chest—in inflammation of

the pleura, the lungs, the bronchi, the trachea, and the larynx—in paroxysmal or purely spasmodic cough—and in neuralgia.

Saffron.—There is one favourable instance of its employment recorded by Lembert, but as substitutes for it are easily found, Dr. Richter has not tried it; nor has he made use of musk or assafœtida. More favourable results may be expected from daturia, aconitina, hyoscyamia, lactucina, delphinia, solanine, brucia, and veratria. The last has been rubbed on the sound skin in the form of ointment.

Stramonium has been found very useful by Recamier and Trousseau in obstinate neuralgia. It is not so apt to excite nausea and vomiting as the acetate of morphia.

Quinine.—The sulphate and acetate of quinine have been employed; they were not inactive, but seemed to have no tonic effect, nor, indeed, any other one, until the intermittent disease ceased through their agency. Topically, quinine acts almost like a caustic. It has been used chiefly in intermittent fever, particularly by Berndt, and its favourable results have been obtained more especially in children. Dr. Richter recommends its use where great irritability of the stomach, idiosyncrasy in respect to internal remedies, diseases of the organs of deglutition, or inflammation of important organs, forbid its employment internally; as also in children, on account of its bad taste. Other observers give the dose as being from three to eight grains, but Dr. Richter says only one. This remedy has also proved beneficial in different kinds of pain of the face.

Salicine is a very uncertain remedy in ague, and *piperine* may be equally dispensed with.

Aloes.—Lembert, Gerhard, Romberg, Monro, Hofmann, Natorp, Wiesbach, and Magnus, alledge that this remedy acts endermically as a purgative; but their authority is not confirmed by Dr. Richter.

Jalapine was applied in doses up to twelve grains, but without effect.

Gamboge.—Gerhard asserts that he has seen good effects from this remedy, both alone and in combination with aloes; while Dr. Richter has not seen any effect from either.

Croton oil, whether rubbed upon the abdomen or applied to the exposed cutis, was most uncertain in its effects, and should not be used endermically, from its being apt to cause erysipelatous inflammation. Neither rhubarb, extract of colocynth, nor elaterium, produced purging.

Calomel is said, by Bally, to have been useful in yellow fever and syphilis; and Lembert, Gerhard, Jahn, and Romberg, bear witness to its effects; yet, according to Dr. Richter, it is inactive. He proposes the trial of the black oxide of mercury and the weaker mercurial ointment, as being more easily absorbed.

Iodine has been tried by Gerhard and Coster, and, according to the latter, is useful in dropsy. Dr. Richter would have it used only where its internal action upon the stomach, &c. is to be avoided.

Oxide of zinc.—Dr. Richter says that Hofmann's experiments on the antispasmodic powers of this preparation must be considered as simply negative.

Kermes mineral.—Dr. Richter has sometimes seen this remedy produce expectoration, but never either vomiting or increase of perspiration—effects which occurred in the experiments of Lembert and G. H. Richter.

Tartar emetic.—Dr. Richter could not perceive the purging and diaphoretic effects attributed to it by Lembert, nor the emetic power observed by Gendrin.

Emetine.—Gerhard alledges that he found the impure preparation* very active, but Dr. Richter's experiments did not confirm this.

Squill.—The diuretic effect of this remedy seems to come on when it has been continued for several days in a proper dose; but the irritation and pain which it causes are adverse to its continued administration.

Digitalis more frequently acted as a diuretic; but, like squill, it was soon necessary to discontinue its use, on account of its irritating effects. Perhaps it may be of some benefit in organic diseases; and *digitaline* also deserves to be employed as a diuretic in dropsy.—*From a review of Dr. A. L. Richter's work, entitled, "Die endermische Methode," in Schmidt's Jahrbücher* June 9, 1838.

WESTMINSTER MEDICAL SOCIETY.

November 3, 1838.

DR. CHOWNE, PRÆSES, IN THE CHAIR.

Fœtal Monstrosities.—Mr. Thomson on Hypertrophy of the Mammæ.

THE chair was not occupied till late in the evening. A gentleman, whose name we could not catch, commenced the business of the evening by relating a case in

* This is otherwise called coloured emetine; the pure preparation being white.—TRANSLATOR.

which a mother was frightened during pregnancy on seeing a dead cat floating in a tub of water. She went her full period of utero-gestation; but when confined, the infant's features presented a strong likeness to the feline countenance. Several other gentlemen enumerated instances of monstrosity occurring after incidents which the mothers recollected perfectly, and which instances and incidents petticoat physiologists had always united as cause and effect.

Mr. Clarke related a case in which the mother was alarmed at the sight of an elephant in the Zoological Gardens, and the infant had afterwards several elephantine qualities; and also another case where a mouse was the cause of the fright, and the child was subsequently remarkable for a predilection for cheese.

After a great many such interesting nursery stories had been told, Dr. James Johnson observed, that all these cases had one remarkable circumstance in common, viz. that the causes were never heard of till after the birth of the child. It was but natural for a mother having a deformed or unnatural infant to seek a cause for the defect extraneous from herself, and her imagination and memory generally found little difficulty in discovering some event during the nine months which could be plausibly elevated to the dignity of a cause. He had heard of mothers being terrified by men with wooden legs, but he had known no instances where the children were born with such appendages.

Mr. Gill stated that he had always been a sceptic as to any influence which the imagination of the mother might have in modifying or arresting the development of the fœtus, till he met with an instance many years ago which staggered him. This was the case of a lady who was very much alarmed by a dream, in which she fancied she had given birth to a monkey. She was six months gone, the idea preyed upon her mind, and at the full period she was brought to bed of a child who had very much the appearance of a monkey. His features had a very *simian* aspect. The metacarpal bones and phalanges were very long; the joints were uncommonly flexible; and he had great prehensile power in the feet. His mental attributes corresponded to his corporeal ones; he was, as he grew up, perpetually in mischief; he would not be educated, and could never learn the difference between *meum* and *tuum*. He was finally guilty of felony, and transported to Botany Bay.

Mr. Chinnock once saw a malformed fœtus in which the head, thorax, and abdomen, were deficient; but the pelvis and lower extremities were well formed. The mother, he should say, was frightened by a Bow-Street runner, who arrested her husband. After the discharge of a great many facetiæ by the scientific characters present, Mr. Hall Thomson was allowed to read a paper on *irritable breasts*, which he had announced on the previous evening.

Mr. Thomson stated that his attention had been drawn to the subject of irritable mamma by a case which he had under his care at the Westminster Hospital. The disease had for a long while resisted every mode of treatment that could be devised, but had finally succumbed to a very simple remedy. He would read the history of the case, which was substantially as follows:—

Elizabeth Hobson, a lady's maid, about 16 years of age, was admitted into the Westminster Hospital on the 29th August, 1837, having the right breast enlarged, and very painful to the touch. She had suffered a month before she applied for advice; the pain and swelling had occurred suddenly. She was a tall, exquisitely handsome girl, and more mature than girls of her age usually are; she was of a pale but clear complexion; her face was so perfectly regular, and her figure so truly symmetrical, that her beauty might satisfy the imagination of a Titian. She menstruated as early as her eleventh year, and the catamenia had been perfectly regular ever since. When seen by Mr. Thomson, the left breast was larger than natural, and flabby: her temperament might be considered as belonging to the leucophlegmatic class. The affected breast, on admission, was not remarkably enlarged, but the glands in the axilla were tumid. She complained of acute pain running up the neck of the same side, and shrunk from every attempt at touching the part. Her appetite was indifferent, and she perspired profusely upon the least exertion. Iodine in all its forms, both locally and internally, was first tried without effect. The pain grew worse, and the breast increased in size. Leeches were now applied every alternate morning, with anodyne fomentations, but no benefit accrued. A plaster of opium and strong mercurial ointment was placed over the surface of the mamma, and a sixth of a grain of extract of belladonna given in the form of pill three times a day; cubebs also was administered. These remedies being useless, all the formulæ of iron were resorted to. Pursuant to the suggestion of one of the physicians, a drhught containing half a drachm of tincture of cantharides, and an equal quantity of spirit of turpentine, was administered thrice a day. After these,

extract of belladonna as a cataplasm, hyoscyamus, hydrocyanic acid as a lotion, extract of conium, morphia internally and externally, and two issues made with the potassa fusa and soft soap, were all successively employed in vain. The breast gradually increased in size, and became more and more painful. After six months' treatment she returned home, having experienced no relief whatsoever. She then applied to two private surgeons, who proved equally unsuccessful with the public ones.

After a whole year's suffering, she was again admitted into the Westminster Hospital, on the 28th August ult. She was now somewhat emaciated: her face was haggard, and expressive of anguish; her appetite was null, and her strength had gone. The right breast was three times as large as the other, and excessively sensitive all over its surface. A change of structure was perceptible in the mamma; it was large and unresisting. A large issue was now made on the inner side of the deltoid. The tincture of lytta was tried once more, and the muriate of morphia exhibited every night, but no result produced; then the infusion of gentian with carbonate of soda; afterwards, extract of belladonna; lastly, carbonate of iron, in large doses, but not the slightest benefit was obtained.

At this time a consultation was held by all the medical men of the establishment, and it was resolved that a seton should be passed down to the gland itself, and all medicine abstained from. Even the morphia was discontinued. Two days after the introduction of the seton, the pain in the breast had diminished, and as soon as suppuration was established, the girl gradually improved day by day. In a fortnight the breast was very little larger than the other, and the pain had totally ceased. Her countenance had lost its painful expression. She is now cheerful, has a good appetite, sleeps soundly, and says she feels as well as ever she did in her life. The glands in the axilla are scarcely to be felt.

Mr. Thomson stated that he did not mean to recommend the seton in all cases of irritable breast, for he had met with instances in which setons had been found injurious; it appeared to him that by a careful study of these cases, *criteria* might be discovered that would lead to a careful classification of them in regard to the remedies that should be selected.

Dr. Johnson inquired whether there was any remission or intermission in the pains. It appeared to him that the case related by Mr. Thomson was a well marked instance of hypertrophy of the breast, combined with neuralgia, and it was such a case as would always be relieved by setting up suppuration by means of a seton.

Mr. Thomson stated there was no periodicity in the pains. Mr. Streeter said he had known two instances, in which menstruation had commenced at the age of nine years; but in these there was no complete development of the adult characteristics. He thought it might be considered a rule that precocious menstruation was attended by an imperfect development of some of the sexual organs.

Dr. Chowne thought that in precocious cases the ovaries were always fully developed, though the uterus might not.

Mr. Thomson said that Dobson was in all respects a perfectly formed woman. She had no disease, but the local one he had described.

A gentleman from St. George's Hospital had seen in that institution a case of simple hypertrophy of both mammæ, without neuralgia, which had been removed in two months by the employment of the liquor potassæ, in full doses. The use of this remedy had not produced any general emaciation.

Mr. Chinnock mentioned the case of an eminent actress, whose breast had been hurt by Mr. Macready, in one of his tragic efforts. She had been relieved perfectly by an issue in the arm.

Mr. Thomson, in answer to a question from the chair, said, that this woman's bowels had been kept regular. A long discussion now ensued as to the validity of the principle suggested by Mr. Streeter, that precocious menstruation was attended with imperfect development, and the general impression of the meeting was, that this peculiarity was accompanied almost without an exception with a precocious development of the sexuul organs.

A gentleman stated, in conversation, that Dobson, whilst in the hospital, had been subjected by Dr. Edward Harison to the mesmeric process. The Doctor manipulated in the orthodox way, recommended by Baron Dupotet, and said he was determined to send her to sleep; but after various attempts on several days he totally failed. The girl said that it produced giddiness, and a little nausea. It was said that this patient was very intelligent; and the circumstance of her thus successfully resisting the would-be magician, proves that she had not only good sense, but honesty.

The president having announced that the clock had told ten, the meeting adjourned.

IDIOS.

WESTMINSTER HOSPITAL.

Exfoliation of the Bones of the Cranium.

James Ryan, æt. 32, a native of Tipperary, admitted under the care of Mr. Lynn, and suffering from the sequela of syphilis. At the age of 18 he enlisted into the 10th regiment of foot, and was sent out to Corfu, where he became the subject of *lues*. He reported himself to the surgeon, and having been mercurialized to the extent of producing ptyalism, he got apparently well, and returned to duty. He remained free from symptoms during four years. After this lapse of time, he perceived a swelling upon the point of his nose; this continued for six months, when ulceration took place. The oxymuriate of mercury was now exhibited, and ptyalism was consequently produced. The ulceration was healed, and the man again discharged as cured. Having been a month on duty, the swelling returned; the ulceration became worse than ever, and he was kept under the influence of mercury for fourteen months, after which the ulceration ceased, but severe pains in the nasal bones occurring, the mercurial treatment was resumed, the septum narium sloughed, the turbinated bones and nasal portions of the superior maxillary bones exfoliated, and the bridge of the nose sunk. Three years ago he was discharged unfit for service, and was sent home to England. Since his discharge he has had severe aches in the arms, legs, and head, unfitting him for every kind of work. About a year after his return to England, an inflammatory tumor made its appearance upon the upper part of the scalp. This was opened, and a copious purulent discharge flowed from it. The wound ulcerated, and the mischief extended on all sides; and upon his admission into the hospital on the 30th of July, an extensive caries of the cranium was discovered.

Aug. 15th.—Since his admission he has had good diet, he has taken large doses of sarsaparilla daily, and doses of pure iodine, combined with the hydriodate of potassa, in distilled water. The dead bone is now well defined, but firmly fixed. There is a copious discharge of pretty good pus, and the edges of the ulcer are inverted.

25th.—The carious bone is much loosened from its attachment, and is of a dark, almost black colour; its width is about two inches, and its length three. Mr. Lynn made a crucial incision in the integuments, which he raised upward from the bone, and with a strong pair of forceps extracted the dead lamina. This consisted of both tables, and included a portion of each parietal bone, as was evident from the sagittal suture. The dura mater underneath presented a granulatory surface, and the pulsation of the brain was distinctly visible; a small artery of the scalp was divided by Mr. Lynn, in the preparatory incision, but occasioned no inconvenience.

28th.—Two small pieces of bone have come away whilst he was dressing the wound yesterday. These are like the larger exfoliation, very porous throughout, and jagged at their edges. He had good health until he entered the army; but since he was first affected with syphylis he has been ailing, and he has now large nodes upon both shins. He has had no lichenous eruption on the skin, nor has he had any other sore throat than a common quinsey.

Sept. 7th.—Mr. Lynn has continued, without interruption, the line of treatment already described, as regards both diet and medicine. The patient's general health has very much improved, the rheumatic pains have already entirely disappeared, and the ulceration in the scalp has taken a very healthy appearance.

28th.—The patient has grown stout, his pains have ceased altogether, the ulcer is rapidly contracting and cicatrizing, but there has no disposition of bone taken place in the chasm of the calvarium.

Oct. 10th.—The patient is quite well in health, the wound in the scalp is nearly closed, but there is no restitution of bone. His appetite and strength are perfectly restored. He is consequently made an out-patient. The pulsation of the brain is still observable through the scalp.

SINGULAR INQUEST.

To the Editor of the Medical Gazette.

Sir,

Perhaps the following statement of an inquest, held sixty hours after death, may be interesting to your numerous readers; if so, it is very much at your service.

I am, sir,
Your obedient servant,
F. Fowkes.

1, Berkeley Square,
Nov. 7, 1838.

Early on the morning of the 17th October last I was called up to see Edward Farrar, a "helper" in the Russian Ambassador's stables, who I was told was very ill, but on my arrival I found him quite dead. It appeared he had not been well for some time, complaining of shortness of breath, for which he had been attended by a shoemaker of the name of Lincoln, who had sent him a mixture and powders, the former apparently containing Spt. Æth.

Nit.; the latter, Antim. Oxysulph. and Calomel. I was not summoned to attend the inquest, but was asked if I would be good enough not to leave home, in case my evidence should be required. On my being called, I found the jury anything but a "respectable" one. Two were servants out of place, another was a servant who lived in the neighbourhood, and another a person belonging to the workhouse; in fact, any idlers who happened to be in the public-house when the inquest was held, were sworn in as jurors to make up a sufficient number. Of course, Lincoln was too wise to make his appearance, but he sent some of his friends "to watch the proceedings." One, I think, had the good fortune to become one of the jury; another spoke when he thought he could benefit his *friend*, for which he was gently reprimanded. The coroner, too, seemed anxious to get him out of the scrape, and told the jury that it was not contrary to law for an unqualified person to prescribe medicine. This was quite unnecessary, for the jury were sufficiently friendly to quacks; and, after a short consultation, in which doctors were abused for their ignorance of their profession, they agreed to a verdict of "Died by the visitation of God."

BOOKS RECEIVED FOR REVIEW.

Practical Observations on the Causes and Treatment of Curvatures of the Spine, &c. &c. By Samuel Hare. Simpkin and Co. 1838.

The Unity of Disease analytically and synthetically treated, with Facts and Cases, subversive of the received Practice of Physic. By Samuel Dickson, M.D. formerly a Medical Officer of the Staff. Simpkin and Marshall. 1838.

The Physiognomy of Mental Diseases. By Sir Alexander Morison, M.D. &c. No. 7, Monomania with Fear. London, 1838.

The Indian Review and Journal of Foreign Science and the Arts. Edited by Frederick Corbyn, Esq. Calcutta, May 1838.

The Indian Journal of Medical and Physical Science. Edited by Frederick Corbyn, Esq. Calcutta, May 1838.

Dr. Quain's Anatomical Plates. Fasciculus LXIV: Nerves xv. Taylor and Walton. Nov. 1838.

Observations on the Oriental Plague and on Quarantines, as a means of arresting its progress. Addressed to the British Association of Science, assembled at Newcastle, in August 1838. By John Bowring. William Tate, Edinburgh, 1838.

An Essay on the Prevalence of Small-pox, and the Evils of Inoculation: addressed to the Members of the Boards of Guardians. By J. D. Jeffery. Whittaker and Co. 1838.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, November 1.

Robert Ibeson, Barnsley.—William Francis Franks, Little Stretton.—William Henry Horrocks, Liverpool.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *Nov.* 6, 1838.

Abscess	1	Heart, diseased	3
Age and Debility	36	Hooping Cough	10
Apoplexy	2	Inflammation	16
Asthma	7	Bowels & Stomach	3
Cancer	1	Brain	6
Childbirth	6	Lungs and Pleura	6
Consumption	43	Insanity	4
Convulsions	20	Liver, diseased	1
Dentition or Teething	3	Measles	2
Diarrhœa	1	Mortification	2
Dropsy	12	Paralysis	1
Dropsy in the Brain	1	Small-pox	15
Fever	13	Unknown Causes	70
Fever, Scarlet	14		
Fever, Typhus	10	Casualties	10
Gout	1		

Increase of Burials, as compared with the preceding week . . . 99

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

November.	THERMOMETER.	BAROMETER.
Thursday 1	from 34 to 51	29·40 to 29·28
Friday 2	33·5 46	29·28 29·23
Saturday 3	31 45	29·42 29·18
Sunday 4	32 51	28·86 28·84
Monday 5	39·5 49	29·06 29 33
Tuesday 6	31·5 47	29·62 29·62
Wednesday 7	45 58	29·44 29 38

Winds, S. and S.W.

Except the mornings of the 3rd, 4th, and 6th, generally cloudy, with frequent showers of rain; thunder on the afternoon of the 4th.

PERIODIC METEORS.—We beg to remind our readers that the return of the annual fall of meteors may be expected from the 11th to the 15th instant. Any observations as to time, number, and direction, will be of much service to meteorologists.

Rain fallen, ·7625 of an inch.

CHARLES HENRY ADAMS.

NOTICES.

MEDICAL SOCIETIES.—We have received several reports of the proceedings of Medical Societies. We cannot undertake to publish any but such as possess some general interest.

We regret that we cannot insert the paper about Sir A. Carlisle.

WILSON & SON, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, NOVEMBER 17, 1838.

LECTURES ON SURGERY,

DELIVERED AT ST. THOMAS'S HOSPITAL,

BY THE LATE MR. CLINE;

With Notes.

[THESE lectures were written by Dr. Wilkinson when attending Mr. Cline's lectures, in the years 1787-88-89.

Extract of a letter from Dr. Wilkinson, dated Feb. 6, 1838:—"They (these lectures) are the results of six courses of lectures I attended at St. Thomas's, in 1787, 1788, and 1789; and I am in hopes I did not omit any interesting part of Mr. Cline's valuable observations. The one I had the pleasure of giving you is the repeatedly corrected copy."]

LECTURE VIII.

Lithotomy.—Causes of Urinary Calculi.—Sounding.—Different Modes of operating for Stone.—Various Instruments employed.—Operation on Women.

Lithotomy, &c.—Calculi are found in various parts of the body; sometimes in the ducts of the *salivary glands*, sometimes in the *pancreatic duct*, very often in the *gall bladder* and *biliary ducts*, and more particularly throughout the whole *urinary canal*. Wherever there is mucus secreted on an internal surface, calculi seem occasionally to be formed, and in that mucus to be occasionally collected, particle by particle, till it forms a large solid substance: this happens not unfrequently in the alimentary canal, more especially in horses, where the formation of calculi is very frequent. I have one taken from the stomach of a horse: its nucleus was a large crooked nail. The nuclei are different—very various—sometimes a bit of straw. We find not unfrequently a calculus in the alimentary canal, the middle of which is a ball of hair, as in calves, probably from licking themselves when they are shedding their coat. These calculi in the alimentary canal of horses are sometimes of an extraordinary size. We shall confine ourselves at present to those situated in the urinary canal, which are frequently met with in the kidneys, sometimes in the tubuli urinarii, and within the pelvis and its processes; in the infundibulum very frequently. Sometimes calculi are formed in this part of such size as to fill up the pelvis and infundibulum; hence a calculus taken out of the kidney sometimes corresponds with the form of the part. Calculi found within the kidney are often black on the outer surface. I believe, from the irritation they produce, some degree of inflammation takes place, and some mucus is discharged on the surface of the stone, which gives it a blackish appearance. These, when small, are every now and then passing down through the ureter, while in the kidneys they generally produce very little pain; but in their passage through the ureters the pain they produce is extremely great; the testis on that side is drawn up high, and the scrotum contracted, and the paroxysm is usually attended with sickness and vomiting, and very often with a discharge of bloody urine. These symptoms constantly attend the passage of a calculus through the ureters. When it gets into the bladder, the patient is somewhat relieved; when small, it sometimes gets into the bladder, and is discharged with the urine; but they sometimes remain in the urethra, and become gradually increased in size. When retained for a length of time in the bladder, they gradually increase, by attracting more particles of the same matter, which is formed on the surface, till they

are sometimes of considerable size. When in the urinary bladder, and very large, they partake in some degree of the form of the part, and are generally flattened and pyramidal. Here is a cast of one extracted by Mr. Cowell, surgeon of St. Thomas's, weighing 13 ounces. When small, they are various in their form, also in their surface; some smooth, others irregular; sometimes so much as to put on the appearance of a mulberry. Those which are irregular externally are generally more compact in their substance than others. Sometimes there are small spiculi projecting from every part of the stone. The formation of calculi is, I believe, by a process similar to crystallization. The crystals are generally opaque, but in one instance I have seen them transparent. The calculi that can pass through the urethra of the male are of a very small size, but sometimes much larger pass through the meatus urinarius of the female. The colour of calculi is also very various, both in their external and internal surface. Those calculi situated in the urethra, if they become large in size, are always very oblong, and if they chance to be situated in that part of the membrane of the urethra where there is the curve, they take on a proportional curve. The colour of these calculi varies considerably, sometimes being white externally, at others reddish. These stones, when cut through, are composed of a number of strata, one over the other, in numerous layers, from the centre to the circumference, which vary a little from each other in their texture. When large, they vary from the circular direction, adapting themselves to the bladder. The form and consistence of the strata differ very much.

Any extraneous body getting into the urinary canal will form the nucleus of a stone. I have seen a needle in the centre —sometimes a piece of bougie, or a small coagulum of blood, or a small calculus passing from the kidney into the bladder, and remaining there for a long time. Here is an instance of one which weighed 10 ounces, of which the centre alone appeared to be originally formed in the infundibulum. I have seen an instance of two bits of sticks forming the nuclei of two calculi situated in the urethra, which have depressions and risings corresponding with each other. This man had strictures in the urethra, for which he had been in the habit of using bougies, which being without, he made use of a bit of stick for the same purpose, which broke off in the urethra. Here is a stone which Mr. Girle extracted, having a yellow substance in the centre, and a chalk-like appearance externally, which he supposes arose from taking medicines internally for dissolving the stone: he believed that the lixivium has this effect. Though it does not dissolve the stone, yet it makes the surface softer externally, and relieves the symptoms. We sometimes find considerable variations in the appearance of the calculi, some of the strata differing very considerably from others, great changes having taken place during their formation. This might arise from particular diet or medicine taken at the time. Here is a very curious calculus of three colours; the central one reddish, with a number of small star-like spiral projections around it; then another of a greenish colour surrounding that; and immediately around it a much larger substance, quite white. Here is another instance of a large stone taken out of the bladder of a dead subject, with a mulberry calculus in the centre.

Calculi also very frequently vary in their number: though generally but one, we have sometimes several. It has been observed, that you may generally know, when you have extracted a stone, from its appearance, whether there are any more. When smooth, it has been attributed to there being more than one in the bladder, from the surfaces rubbing against one another. It is so in general, but not always; for where calculi are of a very firm texture, there is often no external appearance of any other being contained, of which Mr. Warner has given an instance, where four calculi, taken out of a patient, were all of them irregular on their surface. I have extracted seven; but the most extraordinary instance was in a patient of Mr. Samuel Sharpe's (Lawrence Welch), of Guy's Hospital, from whom were extracted 214 flakes or pieces of stone. Their chemical analysis is not yet determined; however, it is evident that calculi are not all similar.

Causes of Calculous Concretions.—There is one very common cause—that of extraneous substances being situated in the urinary canal. If they remain there any length of time, get there how they will, calculous matter will form round them. This may happen in a variety of ways, as where the patient has any diseased state of parts, as separation of a small quantity of blood, forming a coagulum or a little nucleus. But there seems a disposition in the kidneys of some persons to form calculi, which is evident in those who have nephritic complaints for a great length of time, who are continually voiding small particles of sand, which, if they were to remain any length of time, would form calculi. A diseased state of the kidney, or peculiarity of action in that part, subjects many patients to the stone. However, in many instances it is an accidental

circumstance, and not from any diseased disposition, as shewn by people who have had the stone, which, being removed, they have had no return of the complaint. Some have supposed that the diet of the patient might contribute to this—the water, or particular food they lived on. Hard water has been supposed to produce this; but I am inclined to think it will not at all contribute to it, unless there is some diseased action in the part, for water or any other substance taken into the stomach undergoes great changes from assimilation; likewise in every thing we eat there is the same earthy substance, which would be equally liable to produce calculi. This earthy matter is contained in the mucus and urine of all persons in some quantity, and it is only from some accidental circumstance that it is formed into calculi. It is dissolved in consequence of the warmth of animal heat, but in becoming cold is separated. Various medicines have been tried to dissolve the stone, but hitherto none have been found to have this effect within the body. Calculi are dissolved in various ways, but a medicine taken by the mouth undergoes such variety of changes that it is very improbable that it should ever retain its solvent power. The medicine which is given may alter the fresh deposit, but not that which was originally formed there. The relief of pain from taking the lixivium is in consequence of the external surface being softened; hence giving less pain when the bladder contracts upon it. (Its use tends to destroy the mucous membrane.) This I had an opportunity of observing in a boy, who had long taken the lixivium. On the instrument being introduced, it was thought he had no stone at all, for it did not give that vibrating shock which is common. The most probable way of dissolving the stone would be by injecting fluids by the urethra, which should be so mild as not to affect the urethra or bladder; but this would be with difficulty effected in a stone patient, on account of the irritability of the bladder. However, it is proper experiments should be persevered in with respect to solvents for the stone, as such a discovery would be a great acquisition.

The *symptoms* of the stone are very strongly marked, so as to point out the disease. The patient has frequently calls to make water, which passes off in a full stream, but often becomes suddenly stopped while passing, and this before the patient has entirely emptied the bladder, shewing that it has been stopped by some extraneous body getting to the orifice of the urethra, varying its position by the discharge of urine, which is always attended with a deal of pain, and gives a smarting sensation at the end of the penis. Stone patients, therefore, particularly children, from the great pain in that part, are very apt to take hold of the end of the penis and squeeze it very forcibly, which gives them temporary relief: this causes the prepuce to be elongated, projecting a great way from the glans, so that there is some difficulty in coming at the glans for passing an instrument; also any considerable motion of the body, when the stone is large, is irritating to the surface of the bladder, causing immediately an inclination to void the urine, so that stone patients are incapable of riding in a carriage or on horse-back; however, this is not always the case, for I have known some capable of this, but in such the surface of the stone has been smooth. The considerable irritation which the stone produces prevents patients from getting any rest, so that they are frequently disturbed during the night in order to make water, and perhaps void no more than ℥ss., thus being wakened every hour or half hour; and when the patient has voided his urine, the bladder still contracts, and produces great pain: if this continues long, the bladder becomes so irritable that the patient suffers considerable pain for a length of time. The manner in which stone patients void their urine is rather remarkable, if attended to. They generally place themselves in a particular situation, with their knees separated far apart, and moderately bent, their trunk stooping forward, generally supporting themselves with one hand: from this position in which they place themselves they appear to me to relax all the parts as much as they can. However, we cannot certainly pronounce from these symptoms that the person has the stone, for there are some diseases with symptoms so similar, that it is uncertain till we sound the patient. Of these, we have the diseased prostate, which, when considerably enlarged, produces painful sensations about the neck of the bladder, very much increased on the motion of the body, and frequently stoppage of urine from the alteration of the urethra at that part; also sometimes from a very irritable state of the surface of the bladder when patients are incapable of retaining their urine long, An ulcerated inner membrane of the bladder or polypi may produce symptoms of stone. Strictures in the urethra, while they are forming, will produce symptoms similar to the stone, but this may be distinguished in some degree by the smallness of the stream in which the urine passes.

In *searching*, we are liable to some deceptions. When the instrument is passed into the bladder, if the resistance of that

organ is great, it gives a firm irregular resistance to the staff, which feels a good deal like the stone; however, they who are much used to searching patients can distinguish this feel from the hard stroke excited by the calculus. Also, if there should be any sand situated in the urethra near the bladder, that will cause a sensation by the medium of the instrument, similar to that of the stone.

Sometimes within the ducts of the prostate gland small earthy matter is collected, giving the same sensation as rubbing the stone; but, in general, a stroke against a calculus produces so strong a vibratory feel, and so distinct a sound, that there can be no doubt as to this point. When it has been ascertained, the next consideration is the *operation*.

This may be done in either sex and at all ages (formerly it was objected to in very old and very young subjects), unless there is some other disease which makes it objectionable, as where there is a diseased kidney, or stone in the kidneys or ureters: while the patient has any nephritic complaints it is improper, as probably little benefit would arise. It has also been objected to where the patient has been much emaciated, and the strength much exhausted. This does not seem to be any considerable objection, for if you remove the cause of this reduction in the constitution, he often speedily recovers. If there was great reason to believe, from continued pain independent of the fits of the stone, and considerable discharge of pus, that the bladder was diseased, little success could be expected.

The operation in the male subject has been performed in various ways, as cutting on the *gripe* by introducing two fingers into the anus, and pressing the stone forwards *in perinæo*, and cutting upon it, which endangers the division of the urethra and prostate. This is particularly described by Celsus, who says it should not be performed but on subjects between the ages of six and fifteen, as in adults the bladder is too distant to reach. It must appear to every one at all acquainted with the structure of this part, that the manner in which the wound is made would be very uncertain, and much unnecessary mischief might attend this mode of operating.

It has also been proposed to make the incision at the pubes, which is a very exceptionable method. The distension of the bladder may be accomplished in two ways—either by injecting it, or by putting a yoke on the patient some hours before the operation is performed, and allowing the urine to accumulate. Injecting it is often impracticable, for the bladder becomes so thick, as for a length of time not to be distended to any considerable degree, being so thick as not to admit of it. In the thickened bladder which often attends stone patients the putting on the yoke gives intolerable pain; and also the frequent injuries which happen on cutting into the peritoneum, and the embarrassment which has often arisen in extracting the stone, has quite thrown this mode into disrepute, and now what is called the lateral operation is very generally adhered to. This is done by cutting the perineum on one side, and then extending the incision into the bladder. It has been performed with some little variation by different surgeons, and lately has been attended with great success. Frère Jaques first performed the operation with a success which was very much magnified, and did prove so when he arrived at Paris. His operation was performed with a staff with no groove in it, which must have occasioned great difficulty in getting into the bladder. A good deal of care is necessary in getting into the bladder, to avoid wounding the rectum.

The operator is most conveniently situated opposite the patient. The staff is first introduced, and should not be pressed too near the abdomen, as that would draw the point out of the bladder. In the *male*, the incision should be made *in perinæo*, of a proper extent to have a command of the bladder, beginning opposite the inferior part of the arch of the pubes, and directed downwards by the side of the anus. This lays bare the accelerator urinæ, through which the incision should be carried. The bulb of the penis should be put on one side, and then cut upon the groove of the staff. The nail of the index finger should be kept upon the opening, until the beak of the gorget is introduced, which should be done standing up; then the gorget divides the prostate laterally, giving room for the introduction of the forceps. When the stone is got out, we should feel if there be another, If hæmorrhage from the internal pudendal artery occurs, use pressure with the finger against the ischium, which, if insufficient, try a compress of lint. Some preparation is necessary. The patient should be in tolerable health, and take a purge the day before, to empty the bowels, and on the morning before the operation a clyster, to have the rectum perfectly empty. After the operation, we should be extremely attentive to the treatment of the patient, to prevent inflammation in any considerable degree. After the operation, an opiate is to be repeated for two or three nights. If colicky sensations, nausea, vomiting, quick hard pulse, &c. arise, venesection and evacuants are indicated. If the pulse becomes at all full or hard, blood should be taken according to the

strength of the patient. Also costiveness should be avoided by medicine from time to time, and it is proper to foment the abdomen, which is most commonly done by Flor. Chamomel. put in flannel bags, and heated by a warming-pan from time to time: this will be more convenient than the steam. Once, in this hospital, we used to put the patient in warm water in a bathing-tub: this was found inconvenient for adults—it required such a quantity of water, and children it terrified. When inflammation has taken place, and is not relieved by evacuants, a blister may be applied to the region of the pubes with sometimes very good effect, by keeping up an irritation. If the wound goes on well, in a few days the urine takes its proper channel; but when it comes earlier by the penis, it is unfavourable; also if the cloths are not frequently moistened. Simple dressings only are required.

We shall next consider the *instruments* necessary, as much will depend upon the construction of these. They should be of various sizes and shapes, from variety of circumstances. The *sound* to search patients at first is round, without a groove, which passes with rather more ease, and is not quite so much curved as a staff. After it is introduced, by moving it upward and downward it most frequently strikes against the calculus, if there is one. But if the bladder is very capacious, and the stone small, it may be necessary to move it from side to side.

The staff should be made with an open groove, pretty large, that you may have good command of it, for the introduction of the other instruments necessary, and more bent than the sound, that it may be prominent *in perinæo*; also if not much bent it may thrust the point out of the bladder. The instrument being introduced, a common knife is necessary to make the incision; next, the prostate is to be divided with the gorget—the gorgets formerly used were blunt on both shoulders, so that they made their way through by tearing the prostate asunder—a lacerated wound must be attended with a great deal of pain to the patient, and difficulty to the surgeon, and as the laceration will be various and irregular, it will often endanger the tearing through the termination of the vas deferens. Sir Cæsar Hawkins improved the gorget by making a cutting edge on one side; this is introduced with more ease to the patient and surgeon than before, and less mischief to the contiguous parts, but this on some accounts is inconvenient, because it does not make the incision in the most favourable direction, which is obliquely upwards. Another inconvenience is—that the opposite shoulder of the beak being a blunt one, causes a difficulty of introduction. I have known a cutting gorget of this kind to cut one side of the prostate, and tear the other; therefore I have made some improvement to obviate the difficulty, which is, having the beak on one side; there is only one shoulder, and that shoulder of the instrument is carried directly outward, with a straight edge, which is very easily set, and may be made as sharp as any knife. This instrument will cut very smoothly through the prostate. In an adult subject the breadth of this gorget should be about an inch, which will completely divide the prostate; in very small subjects, as a child, about half an inch; in the intermediate, about three quarters of an inch. These will be sufficient for every subject, but as we frequently have occasion for the gorget more than once, then a blunt gorget will be proper, when there is no occasion for a beak, which sometimes hitches against some membranous part, causing an obstruction to its introduction. Stone forceps are now commonly made with short blades and long handles, the blades moderately bent; the handles do not come in contact with each other, and the inside of the blades are made rough, to take better hold of the stone. The long handles and short blades are attended with this inconvenience, that in taking hold of the stone the handles are much more separated than the blades, which makes the extraction the more difficult, and you are not at all apprised of the force you are making use of; also, from the shortness of the blades, a larger angle is formed; therefore it is with more difficulty drawn out, in proportion to the separation. Also there is great inconvenience from their action while in the bladder: by thrusting these short blades into the bladder, every time you open them, you exert more force against the sides of the bladder than you are aware of, forcibly dilating it thus:—

To prevent this, all forceps should be constructed with their blades and handles of the same length; by these you ascertain the size of the stone, the handles and blades being equidistant, also you are less liable to break the stone, being aware of the force used, it being the same at each extremity, whereby there is no more pressure made on the stone than on the handles, and when in the bladder there is not so much danger of wounding it. The size of the forceps should be regulated to the size of the patient, as ten, eight, or six inches long, which last is the smallest we ever can conveniently use. The size should be such that when the joint of the

forceps is introduced into the bladder, they ought to be situated under the arch of the pubes. The consequence of the joint being either beyond the arch, or not so far as it, is an impediment to opening the forceps. If too short, it is sliding out; if the blades are too long, they are pressing against the sides of the pubes, which thrusts it further in. After the forceps have been introduced, we extract the stone. If a stone breaks in small pieces, a scoop is necessary. There is a groove in the scoop for the purpose of passing the forceps upon it without withdrawing it: if lodged in an inconvenient place, that we cannot command with the forceps, the crotchet is very useful. We have also a *finger crotchet*, sometimes found useful in the same way. When a stone is very small, it may fall from between the blades, when a pair of flat blades is necessary. Sometimes the calculi are so inconveniently placed, that a pair of curved forceps are necessary to get at them.

Extraction of the stone from women.—The bladder in females is more capacious than in males, they having a larger pelvis, and being in the habit of retaining their urine longer; hence the stone is with difficulty found, though the symptoms are well marked, the same as in males: also when they are horizontal, a part of the bladder is situated below the meatus urinarius; hence it is necessary to pass a finger *per vaginam*, to raise it up. A female staff being introduced, it only remains to divide the prostate with a cutting gorget, which is best done laterally and obliquely, downward, thus avoiding the crus clitoridis and vagina. The stone is with difficulty extracted, on account of the capaciousness of the bladder; hence the crotchet is preferable.

No dressings are necessary. If symptoms of inflammation supervene, evacuants may be made use of.

Some say a blunt gorget is preferable, as they retain their urine sooner and better from a lacerated wound. I never knew an instance where the cutting gorget was used, but where the woman could in time retain her urine.

CLINICAL LECTURE ON DISLOCATIONS OF THE SHOULDER, AND ON SLOUGHING PHAGEDÆNA,

Delivered at St. Bartholomew's Hospital,

By Wm. Lawrence, F.R.S, &c.

Some cases of dislocated shoulder, which have lately occurred in the hospital, deserve your attention, from the circumstance of the bone having remained displaced for some weeks before reduction was attempted; and they afford me the opportunity of offering you a few observations on the course that ought to be pursued under such circumstances.

Cases of Unreduced Dislocations of the Shoulder.

William Richards, a sailor, 44 years of age, was admitted on February 22, having had his right shoulder dislocated on board ship three weeks before. He was of spare habit, and not robust. No attempt at reduction had been made, and he had continued to perform his usual duties to a considerable extent. The nature of the accident was rendered immediately evident on uncovering the limb, by the unnatural projection of the acromion, the falling in of the deltoid muscle, the distance at which the elbow was held from the side, and the unusual direction of the axis of the humerus in relation to the trunk. The head of the humerus could be felt in the axilla; and the limb was found longer than that of the opposite side by half or three quarters of an inch. The case was that usually called dislocation into the axilla; in which the head of the displaced bone lies in front of the glenoid cavity, and a little below its level. The limb could be moved freely, and the patient employed it without much uneasiness, as he had done since the accident, in underhand motions. The circumstances were altogether so favourable, that no doubt was entertained of accomplishing the replacement. Two days after admission he was taken into the operating theatre, that the limb might be subjected to methodical extension. The scapula was fixed by the broad wadded leather band, which I now shew you, of which the middle was placed in the axilla, and the two ends, having been carried obliquely across the chest and back, were fastened by the cords in which they terminate to an upright iron bar, a little above the level of the opposite shoulder. This wadded leather band, furnished with rings for the application of pulleys, was firmly strapped on the limb just above the elbow, and the pulleys were fastened above the level of the chest, so as to extend, not horizontally, but a little upwards. The points of extension and counter-extension were exactly opposite each other. When the apparatus had been fixed, and before beginning the extension, between twenty and thirty ounces of blood were taken from the arm, and one grain of tartarized antimony was administered in solution; five other similar doses being given at intervals during the process. Extension, first in a moderate, and then in a gradually increased degree, was kept up between twenty and thirty minutes, with the

effect of altering the position of the bone, which was brought just to the level of the glenoid cavity, but without entering it. The extension was suddenly stopped, the head of the bone being drawn at the same time backwards and upwards, while the elbow was carried to the side. The shoulder had now regained its natural outline, and the reduction seemed complete. The patient was sent to bed, with the arm confined to the side by a broad bandage inclosing the limb and the trunk. When the joint was carefully examined, at the end of three days, it was clear that the replacement either had not been perfect, or that the dislocation had been renewed. The form of the shoulder was improved, and the elbow no longer projected from the side, with which it could be brought into close contact without difficulty or pain. My colleague, Mr. Stanley, agreed with me in opinion that no advantage could be expected from renewed extension, to which the patient at once stated that he would not consent, being satisfied with the use that he had of the limb, and suffering no pain whatever. I now left the limb at liberty, desiring the patient to employ it freely. He left the hospital on the 12th of March, with great improvement in the motions of the limb, which were nearly perfect except in the directions upwards and backwards.

Stephen Bland, 37 years of age, a tall, muscular, and robust man, was admitted on March 16, for a dislocation of the shoulder, which had happened a month previously. No attempt at reduction had been made, the nature of the injury not having been recognized. The projection of the acromion, and the falling in of the deltoid, were less conspicuous than in the preceding case, in consequence of the patient being much stouter; independently, however, of these signs, the nature of the injury was rendered sufficiently obvious by the mode in which the elbow stood out from the side, by the relation of the axis of the humerus to the trunk, and by a slight increase in the length of the limb. The patient had continued to suffer from the time of the accident, and possessed very little power of moving the limb. The same mode of proceeding was adopted in this as in the preceding instance, in respect to extension, counter-extension, venesection, and the administration of tartarized antimony: he only lost, however, about sixteen ounces of blood. When the extension had been continued about twenty minutes, having been gradually raised to a degree which I should not have considered it safe to exceed, the patient said that the bone had gone in, although I had not noticed any change of position. On carefully examining the part, I found reason to believe that the patient's statement was correct; and, on stopping the extension and lowering the limb, it turned out to be so. I thought it proper to keep the limb bound to the trunk for some days. When it was set at liberty, the power of motion improved rapidly; all uneasiness had ceased from the time of reduction. He left the hospital in a month, and called to see me at the expiration of another month, when the limb had regained its natural strength and freedom of motion, excepting the movements upwards and backwards, which were still limited and imperfect.

George Thompson, 67 years of age, came into the hospital, on May 10, with an unreduced dislocation of the humerus, of eight weeks' standing. Extension was made twice by means of the pulleys, but without success; the motions of the arm were, however, improved.

The preceding cases are calculated to encourage us in attempting to replace bones which have been dislocated for some weeks. We may either succeed completely, restoring the limb to its natural state and utility, or, failing in this, we may give increased power of motion. We must, however, observe some caution in the degree of force that we employ, especially when we use the pulleys, and in its duration. In his valuable work on Dislocations and Fractures of the Joints, Sir Astley Cooper says, "I believe that much mischief is produced by attempts to reduce dislocations of long standing in very muscular persons: great contusion of integuments, laceration and bruises of muscles, stretching of nerves, leading to an insensibility and paralysis of the hand, I have seen follow an abortive attempt to reduce a dislocation of the shoulder; so that the patient's condition has been rendered much worse than before the trial at reduction. Even when the bone is replaced, it is often an evil rather than a good, from the violence of the extension*".

I will cite a few examples calculated to impress this caution more strongly on your minds.

Pelletan† mentions that the axillary artery was ruptured in an attempt made at the Hôtel-Dieu to replace a dislocated humerus at the end of four months.

M. Flaubert, of Rouen — an excellent surgeon, of great knowledge and experience — has met with several unfavourable cases, and has set us the admirable example of recording them for the public benefit‡.

A dislocation of the fore-arm, in which the radius and ulna were thrown back on the humerus, in a woman of 48, was reduced on the 27th day. The dislocated bones yielded suddenly on the third extension, with

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* Chap. I. on Dislocation in general.

† Clinique Chirurgicale, vol. ii. p. 95.

‡ In the Répertoire général d'Anatomie et de Physiologie Pathologique, et de Clinique Chirurgicale, vol. iii.

a sound and appearance which led all those present to conclude that the soft parts round the joint must have generally given way. Great swelling of the limb followed, with cessation of the pulse, coldness, and insensibility. General paleness and weakness followed. The patient recovered gradually, but the fore-arm and hand remained useless.

Reduction of a dislocated humerus was accomplished in a woman of 64, at the end of seven weeks. Hemiplegia and partial closure of the eye followed. The limb, which had been without pain, and possessed considerable freedom of motion, remained nearly useless. The hand at least was quite unserviceable; the fingers being permanently half bent, and the two last insensible; the thumb extended.

M. Flaubert attempted the reduction of a dislocated humerus on the 14th day, in a gentleman 50 years old. Great pain and numbness came on in the wrist and hand; the extending force being applied to the former, according to the usual method in France. As those symptoms increased with the continuance of the extension, the attempt was given up. Great pain ensued in the whole limb and in the neck. Shrinking of the member and paralysis were the ultimate results.

A dislocated humerus was reduced on the 11th day in a man of 57. Great swelling of the axilla and shoulder ensued immediately. The patient died fourteen days after the reduction, when the axillary artery was found to have been completely torn across.

In a female, 70 years old, of good constitution, a dislocated shoulder was reduced at the end of five weeks; the reduction being followed by emphysema, severe pain of the corresponding leg, and long fainting. Subsequently, the arm and leg became paralytic, and the patient died on the 18th day. The four lower nerves of the axillary plexus were found matted together by thickened cellular texture, and torn out from the medulla spinalis.

The narratives of M. Flaubert's cases do not enable us to account for their unfortunate results, to which I have seen nothing similar. He never used the pulleys, but was contented with what we consider the milder degree of extending force, exerted by assistants pulling at the two ends of a folded linen. The extension was not maintained for an undue length of time; nor was there any imprudent repetition of it in any of the cases. The extending force was applied above the wrist.

Dr. Gibson, of Philadelphia, has recorded two cases, which terminated fatally from injury of the artery.

In a patient, 50 years old, reduction was attempted at the end of three weeks, after the abstraction of three pints of blood. Extension was made by five strong men; and the attempt was repeated several times, but ineffectually. Although he had suffered much on this occasion, he was very desirous of submitting to any measures by which the use of the limb could be restored, and applied to Dr. Gibson for this purpose at the end of two months. Two pounds of blood were drawn from the arm, and powerful extension from the carpus, by means of pulleys, was tried three times ineffectually. Three further attempts were made in different manners, two of them with the heel in the axilla. On the last occasion the bone was replaced; but it escaped again in half an hour, when Dr. Gibson finally restored it. Swelling of the axilla came on; then great faintness, and death the same evening. The axillary artery, which had become closely united by coagulable lymph to the capsule at the neck of the bone, was torn across*.

A strong man, of 53, came under the care of Dr. Gibson, for a dislocated shoulder, nine weeks after the accident. Several attempts at reduction had been made soon after the occurrence, with the employment of great force. Reduction was effected after an hour and three-quarters had been employed in extension by means of pulleys and in other ways; twenty ounces of blood having been taken from the arm, and twelve grains of tartarized antimony having been given in the time. Great swelling of the chest with pulsation was found on the next day, and the artery was tied above the clavicle on the following day. The patient survived the operation five days. The artery had undergone a considerable laceration: it had adhered so closely to the capsule and bone that reduction could not have been accomplished without tearing it. There was fracture of the glenoid cavity in this case†.

Von Froriep has related the case of a youth, aged 26, of a wretched weak constitution, with curved spine, who met with dislocation of the right shoulder. He suffered but little pain, and was able, after a few days, to do the slight work he was accustomed to nearly as well as before. He was seen by a surgeon on the 20th day, who advised reduction, and proceeded to make extension by means of assistants. It was necessary to desist, on the first day, from the severe pain experienced by the patient. In a second attempt the extension was followed up in spite of the pain, and the bone was replaced. The reduction was followed by syncope, which did not last long: swelling of the shoulder came on; then repeated faintings; and death followed in about three hours. A great effusion of blood was found

* Philadelphia Journal of the Medical and Physical Sciences, vol. vii.

† American Journal of the Medical Sciences, vol. ii.

in the axilla and neighbourhood: it had proceeded from the axillary vein, which presented a laceration an inch long, but was not completely torn through*.

You will see clearly from these cases, that if we act on the general rule of attempting replacement in all unreduced luxations, and of employing such a degree and continuance of force as may be necessary for accomplishing the object, we shall sometimes leave the patient with a paralysed and useless limb, and sometimes endanger, or even destroy life. The old and excellent rule of taking care to do no harm, if you cannot do good, is here particularly applicable. There is no excuse for such dangerous attempts in dislocations of the humerus, because a new socket is gradually formed for the head of the displaced bone, which gradually acquires so extensive a range of motion as to render the limb very useful. I knew a gentleman with an old unreduced luxation of the humerus, in whom those who were not aware of the circumstance did not observe any defect in the motions of the extremity.

Your attempts, then, in these cases of unreduced dislocation, must be confined within certain limits in respect to the time elapsed since the accident, the degree of force to be employed, and the duration of its application. "I am of opinion," says Sir A. Cooper, "that three months for the shoulder, and eight weeks for the hip, may be fixed as the period from the accident at which it would be imprudent to make the attempt at reduction, except in persons of extremely relaxed fibre, or such as are at an advanced age." This rule is not to be followed strictly; it is only meant as a general guide. There are cases in which it would not be prudent to make the attempt within the periods just mentioned; there are many, in which the attempt will not succeed under the employment of such extension as I should not think it safe to exceed. Remember the rule "Saltem ne noceas;" and if the parts have become accommodated to their new position--if the motions of the limb are tolerably free and improving, and there is no pain—take care to do nothing that may put the patient in a worse position. It is possible to reduce a dislocation, and at the same time render the limb useless. I cannot define exactly the degree of force to be employed, which indeed will differ in different circumstances. You should begin with gentle extension, and increase it slowly, attempting to accomplish the purpose by the persevering application of moderate force. You must carefully watch the effects produced on the limb and on the system in each case. I think it can seldom be advisable to continue the extension much beyond half an hour. If the bone did not yield to one or two attempts of this kind, made under all the circumstances calculated to promote a favourable result, I should not recommend a repetition of effects.

Dislocation of the Humerus, attended with a grating Sensation on Motion, leading to the supposition that the case was complicated with Fracture.

James Yarnsley, 40 years of age, was admitted into the hospital, on the 23d of March, 1838, for an accident to the shoulder, which had occurred on the 21st. A cart, in which he was riding, was overturned; he was thrown violently to the ground, when the cart fell on him, and he remained under it for some time. The gentleman, who first examined the limb, considered that there was a fracture, and therefore recommended that he should be sent from the country, where the accident happened, to the hospital. They who first examined the patient on his arrival entertained the opinion that there was fracture; and the case was accordingly mentioned to me as a dislocation of the shoulder with fracture. The dislocation was obvious enough, and it was soon ascertained that the humerus was not broken. A sensation like crepitus was perceived as distinctly as in a fracture, when the shoulder-joint was firmly grasped with one hand, and the arm moved with the other; also, when the upper end of the bone was raised by the hand passed under it in the axilla, the elbow being held by the other hand. The sensation appeared to me more like the hitch or catch which might be produced by moving the articular head of the bone over an irregular hard surface, than the sharp grating of broken bones: the symptom, however, was so strongly marked as to lead to the opinion that the neck of the scapula was fractured. Never having seen a specimen of fractured neck of the scapula in any museum, and reflecting on the mode in which this portion of the bone is protected against external violence, I conclude that such an injury, if it ever happen at all, is extremely rare, and that it is the least likely to take place when the effect of the force has been spent in causing dislocation. As the existence of dislocation was unequivocal, while I doubted altogether respecting that of fracture, I deemed it advisable to make a cautious trial of extension, which I did on the 24th. When a moderate force had been applied, by two or three assistants pulling at the ends of a folded linen fastened above the elbow not more than five minutes, the bone went in, the mobility of the joint was restored, and there was no longer any crepitus or other indication of fracture.

The head of the humerus, when dislocated,

* Veraltete Luxationen, vom Standpuncte der Chirurgie und Medicinalpolizei betrachtet; Weimar, 1834.

may lie upon the subscapularis, or between that muscle and the bone; or it may be placed in contact with the inferior costa of the scapula, near the glenoid cavity. In the two latter cases, the movement of the head over the bony surfaces, on which it rests, may impart a sensation closely resembling the crepitus of fracture. I remember a case of unreduced dislocation in this hospital, where the crepitus was so distinct that the injury was supposed to be fracture. The patient died: I do not recollect the details of the history, nor the cause of death. The head of the humerus was in contact with one of the ribs, the surface of which was bare.

Cases of Sloughing Phagedæna.

Louisa Gardner, 18 years of age, fully grown, and completely developed in form, was admitted into the venereal ward on April 5, 1838. She stated that she had left her friends, and been in the streets for three weeks, drinking freely during that time, and generally receiving five or six male visitors every day. She had been diseased for a fortnight, at first slightly, but more seriously for the last few days. During the latter period pimples had arisen on the labium, had become red and painful, and then spread into a large sore, which had increased rapidly with severe pain, entirely depriving her of rest. At the time of admission the external organs generally were red, swelled, excoriated, and superficially ulcerated; and there was copious discharge from the vagina. On the left labium, and the neighbouring part of the mons veneris, where the parts were swelled, but not reddened, there was a sloughing phagedænic sore, three inches long by one in breadth, which had attained that size in the last three or four days. The surface, which was excavated and disorganized, reddish, greyish, blackish, and bloody at various points, and bounded by a sharp ragged edge, afforded a copious ichorous and offensive discharge. Excepting that the severe pain had impaired the appetite and rest, the general health was undisturbed. The appearance and expression of the countenance were those of a healthy young person, and formed a singular contrast to the condition of the suffering organs. Pure nitric acid was immediately applied, so as to soak effectively the whole of the disorganized surface. Thirty drops of Tinct. Opii were given to soothe the pain occasioned by the action of the escharotic, with a direction that it should be repeated, if necessary, in two or three hours: and six ounces of port-wine were allowed to be taken in water. The cauterized part was covered at first with dry lint, and then with bread poultice. The pain of the application subsided in a few hours, when the appetite and rest returned. Great care was taken to keep the parts generally free from moisture by frequent ablution, and the introduction of dry lint between the folds—a necessary precaution in the management of these cases. The action of the acid converted the diseased surface into a light brown firm eschar or crust, about one-third of an inch in thickness, which began to separate at the edge about the third day, and was completely detached in a few days more, leaving a deep excavation of florid healthy granulations, which filled up, and cicatrized rapidly. On the 21st of April she began to take capivi mixture, and to use a sulphate of zinc injection, on account of the vaginal discharge. As the cicatrix, when nearly complete, ulcerated a little, and assumed an unhealthy aspect, she used, on May 7, the black wash, and took a blue pill night and morning. Its healthy character was soon restored, and she was discharged completely cured on the 16th of May.

Mary Harmer, 25 years of age, a young woman with fair complexion and light hair, who had always enjoyed good health, and had lived in service, married in Bath in November, 1836; left that city, and came to London, in February 1837; she travelled on the outside of a coach, became wet through soon after setting out, and was subsequently ill from the exposure to cold in her journey. From this period she experienced vaginal discharge, with soreness of the external organs, which continued to the time of her admission. She suspected at first that disease must have been communicated by her husband, but she could discover no circumstances to justify the suspicion, and expressed herself as satisfied that there were no grounds for it. Three or four small places or pimples came on the buttocks, and broke into one on the 19th of February, 1838, which increased rapidly till the 23d, when she was brought to the hospital. During these five days she expressed herself as having suffered, without intermission, from the most acute pain and fever, which has entirely destroyed rest, and taken away all appetite. An oval sloughing phagedænic ulcer was found on each side, where the buttocks come in contact: the left was fully two inches long by one and a half broad; the right, apparently of more recent origin, was about half the size. These ulcers were excavated, dirty, reddish, yellowish, and bloody, with ragged edges, and a surrounding margin, about half an inch broad, of the brightest red: a reddish ichor of characteristic fetor flowed from them in abundance: there was slight discharge from the vagina, without redness, swelling, or excoriation; and the integuments were in a natural condition between the vagina and the ulcers on the buttocks. The person and

the linen of the patient were clean; while her countenance, demeanour, and language, were marked by an appearance of modesty, and a character of propriety, calculated to authenticate the history she gave of her complaint. The ulcers were intensely painful, the tongue a little white, the pulse slightly accelerated; in other repects, and especially in the appearance and expression of the countenance, the patient might have been considered well. The acid was applied to both the ulcers, as in the preceding case, and an opiate was administered subsequently. The pain of the application went off before night, the patient slept soundly, recovered her appetite, and continued in perfect health. A dose of calomel and jalap was administered on the 24th: meat diet, with a pint of porter daily, was allowed on the 26th. The separation of the eschars disclosed the most healthy granulating surfaces, which cicatrized quickly. An astringent injection sufficed to remove the discharge from the vagina, and the patient left the hospital, free from all local and general malady, on the 2d of April.

John Reid, 32 years of age, a seafaring man, who had been much in hot climates, and suffered considerably from intemperance and illness, had lately returned to England, and been more intemperate than usual. He was admitted on April 30, 1838. Three weeks previously he contracted venereal disease: in a few days after infection, sores appeared on the prepuce, and excoriation was observed on the scrotum and inside of the thigh. The latter had increased in extent in a week. On the 27th, a portion near the centre began to look black, and to be extremely painful. He was brought to the hospital in the night, in a state of great agitation and alarm, with involuntary tremulous movements of the extremities: 40 minims of Tinct. Opii were administered, but did not procure sleep, and he endeavoured to leave the ward under apprehensions of what might be done for his complaints. There were four sores at the base of the prepuce; a larger, with an indurated base, and three smaller; all of them in a favourable state. The outer side of the scrotum, and the corresponding surface of the left thigh, were bright red. In the middle of the fold, between these parts, there was an ulcerated opening, as large as a crown-piece, three-quarters of an inch in depth, with an irregular black surface, and an abundant fetid discharge. Pure nitric acid was applied to the phagedænic ulcer, and afterwards bread poultice: black wash to the ulcers of the prepuce. Fifty minims of Tinct. Opii after the use of the acid.

May 1st.—He slept well during the night, and is now free from pain, which he has not been for many days. The surface of the sore is converted into a dark eschar. The pulse quiet and regular; skin cool and moist; tongue clean.

3rd.—The separation of the eschar has commenced these two days: he is quite easy, and only complains that he cannot sleep at night. Two of the small ulcers in the prepuce are healed. Pil. Sapon. c. Opio, gr. v. at bed-time.

4th.—The pill procured no rest, which he explains by saying, that he formerly used to take large quantities of laudanum.

5th.—The eschar has separated completely, and left a healthy granulating surface. Meat diet.

10th.—The aspect of the sore is less healthy; the discharge has become thin; there is pain in it, and in the neighbourhood. Milk diet. Black wash and linseed poultice to the sore.

12th.—Pain entirely gone, and sore healthy.

22d.—The sores on the prepuce are all cicatrized.

June 1st.—He left the hospital in perfect health, the cicatrix being complete, except in a small surface not exceeding the size of a split pea.

GLEANINGS FROM THE NOTE-BOOK OF A YOUNG PHYSICIAN IN ITALY.

During a bleak morning in the month of November, 1837, with the thermometer at 40° Fah., and "the sky alone for a great coat," I plunged into the busy tide of people floating as usual listlessly up the Toledo, and bent my steps towards the "Incurabile"—the St. Thomas's Hospital of Naples. The entrance into this institution is gained by a double row of steps, one on either side of the door; at the threshold of which was now loitering an immense mob of the halt and the blind—beggars of every age and degree, who, with the revolting importunacy of the Neapolitan mendicant, commenced an onset on my devoted person, which I anticipated as little as I could now avoid. The door was wide open, and, fairly within it, some five or six of the most revolting spectacles, still retaining enough of its appurtenances to declare their connexion with human nature, were congregated, and stunning the very ear as one passed with their beseechings for charity. In no civilized country, perhaps, are the miserable shipwrecks of *lupus*, of *cancer*, and

syphilis, permitted to appal the public eye so unreservedly as in the streets of a Neapolitan town. Medical man as I was, my very blood would now and then congeal within my veins as I came unexpectedly on some frightful specimen of the ravages of these affections, with little more remaining than the mere outline of a face. But let me walk into the portal of the hospital. Here I at once found myself flanked on either side by a row of beds, whose extensive range the eye was scarce able to scan. And those who may be ignorant of the fact, will be surprised to learn, that the miserable patients in the interior are (according to their vicinity to the door) within arm's reach of the dreadful objects I have just described without. The huge door opens widely its jaws, so that, saving the flight of steps without, there is no intervening link between the victims of disease (the miserable inmates of the hospital) and the external world. They are only, indeed, another species of Punchinello to the rabble in the streets, and might offer as fruitful sources of entertainment to the curious and the idle, were it not that the spectacle is no longer a novelty.

Along the aisles of this gigantic hospital, the stranger's eye encounters much to surprise, and not a little to offend it. Imprimis, I may remark, that, saving the wards set apart for the reception of the consumptive, there appears to be no order or system in the distribution of the subjects of different diseases. The interior of the building being laid out in galleries or aisles, instead of separate wards, as with ourselves, there is an entire absence of that general appearance of comfort which characterizes so remarkably the hospitals of our own country. Here the subject of fever—of inflammation, chronic or acute—of skin disease—of syphilis—this man, whose leg was amputated to-day, or that one doomed to the knife to-morrow—all are huddled indiscriminately together; and no one wretch pays the debt of nature around, whose grim corpse is not paraded before the eyes of a hundred other human sufferers. If it is purposed to submit any one of these poor creatures to an operation, he is quietly carried from his bed to the nearest window, where the knife is brandished before the surrounding patients, and glutted with its victim's blood under their eye. This is no exaggerated picture, for I have beheld it more than once myself. The natural result of such uncivilized and inhuman regulations is, that the lowest wretch in Naples would prefer dying of his malady in the streets, to trusting himself within the precincts of the Incurabile. I could individualize at least six instances wherein I offered my purse and person in getting such helpless beings into this establishment, but in every one of which the mention of the Incurabile produced in their minds an involuntary shudder of disgust.

Swarms of priests, students, and professors, loitered idly up and down the aisles of the building; and I need only mention they were Neapolitans, to convey some idea of the state of quiet enjoyed by the patients around. Passing on, I perceived that mercurial ointment, which is in high favour here in syphilitic affections, is introduced into the system by inunction over the internal malleolar region. This is effected by means of a stiff leathern glove, without fingers, which fits loosely to the hand.

Still further on, my ear was greeted by a hundred voices, squalling to the tune of some appointed hymn,—the last note (so characteristic of the melody of a Neapolitan songster) grating on the ear with the long drawn and harmonious cadence of an expiring bag-pipe! This vocal display I found to emanate from the beds of about fifty juvenile patients, in the centre of whom arose in solemn array the greasy figure of a skull-shaved priest, who was doling out successive portions of his subject, at the rate of three or four words per minute. Great must have been the luxury of this spiritual balm to the surrounding sufferers in the flesh, more particularly to any such as may have been the subjects of cerebral disturbance, or nervous affections, strictly so called!

Sufficiently satisfied with the arrangements I had witnessed on the ground-floor of the hospital, I now bent my steps towards the "primo piano," on the story immediately above, where the female patients were disposed of.

But here I met with a check I had little anticipated. Not even a student of the institution, I was informed, could gain access to this department without a special *bullètta* from Prince O——, a Minister of State, and supreme head of the Incurabile Council. Having had the honour of being introduced to that

nobleman, I sent in my card, requesting an order to visit the sanctum in question, which was very courteously granted me. The arrangements in this quarter I thought very superior to those I had lately witnessed below. There was here a general air of cleanliness and comfort pervading the place; and the assiduous attentions of the nuns of a neighbouring convent (who in their formal and faultlessly neat raiment officiated as nurses, *ex officio*) contributed much to heighten the interest of the scene, at least in the eyes of the Protestant stranger.

There is yet another little spot in this hospital I was introduced to, which I shall remember to the latest moment of my life. I allude to that portion of it set apart for the reception of the consumptive.

So great (I may premise in this place) is the dread and the conviction of the contagious nature of phthisis in Italy throughout, and especially in Naples, that, in the latter territory, it is an understood compact between landlord and tenant, that, on the demise of any relative of the latter from this disease, the interior of the house he occupied shall be repainted throughout, and the furniture destroyed, the lessee of the property being chargeable with the expense. With such feelings as these on the part of the nation, it is not surprising that the governors and professors of an institution like the Incurabile should have taken the most effective and potential precautions to guard against the consequences of phthisical contagion.

As I entered this condemned cell, (whence the traveller seldom returns that has once been doomed to its interior), a feeling of horror ran through my veins, as my eye encountered a formal row of sixty or seventy beds, tenanted by as many members of the opposite sex, of all forms and ages, from "the child in its teens" to the mature baby of a greater age.

Here I beheld this appalling disease in all its most hideous shapes. How fatally characteristic the pearl-white sclerotic, throwing into greater relief the brilliant cornea and iris; the whole sunken far within its hollow socket, and manifesting the varied expression engendered by the sufferings, or engrafted by the peculiar temperament of each individual patient. The deathly pallor, relieved in some cases at intervals, by the hectic line or flush; the teeth of alabaster, the emaciated frame, and above all, the fever of the mind, that stood forth conspicuous on the wreck; whilst, ever and anon, some younger and fairer form than usual attracted my attention, on whom the despoiler's hand had as yet imprinted but the earliest stamp of death—yes, of death, but lovely in its mortality—such an impression as the poet has beautifully portrayed in the words—

> "Her brow was fair, but very pale,
> And look'd like stainless marble; a touch, methought, would soil
> Its whiteness. On her temple one blue vein
> Ran like a tendril; one through her shadowy hand
> Branched like the fibre of a leaf away."

A similar ward to this was devoted in another part of the "Incurabile" to the cases of phthisis amongst the men.

But I have yet to mention the more particular object of my visit to the "Incurabile" on the present occasion. I had bartered the preceding day with one of the underlings of the establishment, for a "subject" whereon to run over some of the most important operations in surgery. And, true to his engagement, my friend of the "dead-house" was in waiting upon me at the *portone* of the hospital long before my ramble in its interior had been completed. Those who are ignorant of the worthlessness attached to the mortal portion of our frame in Italy, when it has ceased to enshrine the living principle of our nature, and who know not how it fares with the dead at Naples, will be disposed to deem me trifling with their seriousness, when I mention that the sum demanded of me on this occasion amounted to six carlini—in our money about two shillings; and that in virtue of my nativity I was here allowed to pay at least twice as much as is the ordinary standard of payment amongst the resident students. The compact thus being arranged, I was conducted into a repository set apart for the reception of the bodies, prior to their being selected for the dissecting-rooms, and where, it was arranged, I should carry on my work. I followed closely in the steps of my cicerone, who led me through a narrow and dismal passage by the aid of a candle, encouraging often my reluctant steps, with an "*andiam*," as the gloominess of the perspective began to abate my eagerness to proceed. The door was at length opened, and I heard

it grate again heavily on its hinge, before perceiving the nature of the place. But there was no retreat open to me; so I set about analyzing its recommendations. Imagine a cell or dungeon averaging about 10 feet by 8, whose only ray of light was derived from a corruscation that crept through an armhole above the door, which, again, was almost neutralized by that thrown out from a dismal rushlight, lodged in the body of a potatoe. Raising my eye from this illumination to a survey of the apartment itself, I beheld a line of human carcasses, reposing negligently around its circumference, consisting of men, women, and children, as might be, locked in the arms of one another, and exemplifying not the blind leading the blind, but the dead caressing the dead. In the centre of the chamber, on the other hand, there arose, in huge and grisly relief, an immense cart on two wheels, whose exterior displayed a rich coating of gory blood combined with a due proportion of mud. But I had little leisure to contemplate this interesting spectacle, when a footstep approached, and a suppressed cry of "Paolo, Paolo," greeted my ear. The bolt was withdrawn, and a brother promoter of science introduced himself to my notice. The look with which they encountered each other I thought most significant, as if they would have wished to say, an Englishman is not to be entrapped every day. I gazed on these "Arcades ambo" (that is, blackguards both) with reflections far from satisfactory; but a sudden air of business recalled me from so ill-timed a reverie. The pin was removed from the head of the cart, the tail-board withdrawn, and my two friends fixing their shoulders against its head, a stream of fifteen or twenty bodies, of all ages and sexes, floated gracefully "heads and tails" over one another, and the next moment landed on the ground before me. "*Guardate, signor, guardate!*" they exclaimed simultaneously, with a grin of satisfaction. "*Buon, signor, buon!—sono eccelenti!* "*Scegliete che volet!*" But I had seen enough; and leaving science to take care of herself, I flung down some carlini over and above the sum I had stipulated for, and hurried from a quarter fit only for devils to inhabit. I was subsequently informed, that the dead-carts at night, on their way to the Campo Santo, deposit one always at this cheerful repository for anatomical pursuits, from which are selected, the next day, as many as may be required, and the surplus then conveyed in the same manner to the dead-pits of the Campo Santo!

But let me turn round the picture a little to the light, and look at it on its fairer side. Leaving behind me the spot where "the wicked cease from troubling, and the weary are at rest," and seeking to forget in the unceasing uproar and endless variety always to be met with in the streets of this city, the gloomy impressions of so infernal a spectacle, I happened to stumble across the path of my excellent friend, Professor Quadri, ophthalmic surgeon to the Military Hospital, and Professor of that branch of surgery in the University of Naples—to which gentleman I was indebted, during my residence in that city, for many acts of courtesy and attention. Knowing I was about to take my departure from Italy, the Doctor begged to know if I had been introduced to Assalini since my arrival; and being answered in the negative, proposed I should now accompany him to the house of the old man, who, from a lively recollection of his visit formerly to England, would be pleased to receive me. So we stepped into the carriage together, and in a few minutes afterwards alighted at his door. The abode of Assalini was little enough like what one expects to find in a palazzo, strictly so called; and the humble suite of rooms I passed through within was no less in keeping with its exterior. I found the good old man sitting up in bed, his nose bestraddled by a large pair of horn spectacles, and himself closely engaged in reading the life of Cicero—deeply lost in the interest of his subject, if I might judge from the earnestness with which his eyes were riveted on its pages; for he did not seem to notice our entrance till my friend touched him gently on the shoulder, and informed him of my presence. The old man turned down the leaf in his book, removed the spectacles from their resting-place, and shook me cordially by the hand. When acquainted with the object of my visit (for I observed to him that I was anxious to be able to tell my countrymen, on my return to England, I had seen and conversed with the great Assalini), a smile of conscious satisfaction played around

his lip, whilst his fine features all grew into action in beholding me. "See, signor," said I, "we have never been able to rival, or even come up in our inventions to your excellent instrument, which is the pocket companion of every surgeon in England to this day;" and I opened my Cooper's case (which I had brought with me in the morning to employ at the Incurabile), and placed "Assalini's forceps" in his hand. "Very good, sir; very good," said he (for he conversed in excellent English), "I believe there is some merit in the idea; but this is, indeed, a beautiful little specimen of my instrument. We cannot make them like this in Italy;" and he sent for a large case of various instruments, of the rudest material and design, with which the rust of time seemed to have been busy. Out of those before us, he selected his own forceps, which rather resembled an article we should look for in a blacksmith's forge than a surgical instrument. He shewed me a great variety of forceps for lithotomy, many of which he told me were of his own invention. Indeed, I was made to understand that nearly every article in the case had been designed, or subsequently improved upon, by himself. I soon perceived the old man had mounted a favourite hobby, on whose back every moment rendered him more discursively eloquent; so much so, that I began to despair of seeing him again dismount, when my eye fell by accident on the Surgical Dictionary of Samuel Cooper, occupying its place amongst a choice collection of books. This stratagem exceeded my expectation, for he seized the work with avidity, and turned over its pages, in fifty different places, to display the mention of his own name. He spoke with great pleasure of this work, as well as of its author, whom, however, I thought he appeared to confound with Sir Astley; for he did not apparently recollect our having two surgeons of that name.

I found Assalini most eloquent on the subject of his residence in London; and great were the eulogies he passed on the celebrated men of the profession he had there known, and his praise of our hospital and school arrangements was unbounded. With a pleasing frankness of manner he attributed much of his subsequent success in life to the information he had acquired in England, through the facility of obtaining knowledge at our public institutions, and from his intercourse with the leading surgeons in the metropolis.

I had now been nearly half an hour conversing with Assalini before we either perceived that the exertions he had made were becoming too much for him. The old man had felt himself once more amongst the scenes he was recounting, and was supported under the momentary excitement by feelings akin perhaps to those he then possessed. But he had unconsciously fallen back on his pillow, overcome by his natural enthusiasm of manner, and the interesting nature of our subject; and when I rose to take my leave, he did not offer to detain me.

He told me, in the course of conversation, that old age and a sensible declining of the powers that once animated him, had driven him from the north of Italy to seek support from the serenity of a Neapolitan sky; and that having played his little part on the great stage of human life, as he hoped, with credit to himself and advantage to society, he had tranquilly retired to his bed, from which he was not again anxious to be removed, and where, with such a companion as Cicero to cheer and instruct him, he was prepared and hoped to meet death as should become a good and great man.

I was truly affected with this pathetic soliloquy, delivered as it was with the greatest serenity of manner and composure of mind; and which (pressing my hand firmly between his own) he slowly uttered, with beautiful simplicity, a faultless purity of language, and admirable firmness.

M. B. S.

[We sincerely hope that the "Young Physician" will favour us with a few more "gleanings."—Ed. Gaz.]

ON THE TREATMENT OF BURNS AND SCALDS.

To the Editor of the Medical Gazette.

Sir,

In the Medical Gazette for the 13th of October last I observed an account of a new method of treating burns, related by Dr. Greenhow, in which that gentleman recommends that these injuries

should be dressed with a mixture of resin ointment and turpentine, applied in a melted state, so as to form a complete coating, which is to be left on till the parts are healed. This account of Dr. Greenhow's gave rise to the relation of another plan by Mr. Leach, who extols the use of treacle as a dressing for burns. I am induced to make a few observations on these methods, and on the treatment of burns and scalds generally, in consequence of the great diversity of opinion which exists among surgeons on this subject.

There is perhaps no affection in which so many different modes of cure have been practised as in burns, each individual or school professing to have some infallible remedy, which they employ indiscriminately in all stages and degrees of these injuries, and which, though they may sometimes do good, are more often productive of mischief. Burns have been divided into several different varieties or forms, according to the degree of injury, which may vary from slight rubefaction of the skin to complete destruction of all the tissues of a part, according to the temperature of the burning substance producing the mischief, and the duration of its application. These divisions might be multiplied *ad infinitum*, no one degree being separated from another by any marked line, but each running into the next by imperceptible gradations. They may all, in fact, be comprised under two heads, viz. inflammation and actual disorganization, of which changes all the other varieties are only modifications, both of these effects differing greatly in degree. In some cases, though the heat applied be not sufficient to destroy the life of the part at once, yet the inflammation produced may be so violent as to lead to mortification afterwards; and at the time of the reception of the accident, or immediately subsequent, it is not always possible to know what may be the extent of the injury, as the skin may retain nearly its natural colour, though the parts beneath have lost their vitality. From this circumstance of its often taking some days to develop the severity of a burn, the vulgar notion has arisen that the action of the fire keeps progressing for nine days.

In serious burns (and these injuries are generally more dangerous in respect to their extent than their depth) there are mostly very violent constitutional effects immediately produced, as acute pain from the sentient extremities of numerous nerves being injured; and this by sympathy causes great disturbance of the whole nervous system, giving rise to depression of the circulation, shivering and coldness, aggravated by exposure to the air, which is frequently followed by great difficulty of breathing, vomiting, and coma.

This sudden shock is the first and most dangerous symptom to be apprehended from a severe burn; but if the patient should recover from the immediate effects, other consequences may follow, the result of which are scarcely less to be apprehended. The two most serious of these are secondary inflammation, producing mortification and violent symptomatic fever; and excessive and long-continued suppuration, wearing the patient out by irritation and hectic fever.

We shall briefly pass in review the principal modes of treatment which at different times have been proposed and practised in this branch of surgery, before we make any remarks of our own. Two entirely opposite methods have in almost all ages been pursued—the cooling and the stimulating—both of which have the support of antiquity; and it is singular that practitioners are not agreed which of these is most efficacious, or whether one is more advantageous than the other under different circumstances. Comparative trials have never been made on a scale of sufficient extent to determine this question.

Cold has been long employed to diminish the inflammation of superficial burns. Rhazes directs that in recent cases cloths dipped in cold water, or water cooled with snow, be applied as soon as possible to the parts which have been injured, and that they be removed from time to time. Avicenna says that this practice often prevents the formation of blisters. The principal advocate for the cooling plan among modern surgeons has been Sir James Earle, who employed cold water, or rather ice, in many cases of extensive and deep burns with the best effect*. The burnt parts may be plunged into cold water, or merely covered with wet cloths repeatedly changed; and this should be

*. Essay on the Means of Lessening the Effects of Fire on the Human Body. 1803.

continued till the pain has entirely ceased, which will often be many hours. The common vulgar remedy of scraped potatoes is a very effectual mode of applying cold. Refrigerant applications, however, seem principally applicable to slight cases, where a great extent of skin is not injured; for in the latter instance great caution is necessary in their use, as they will aggravate the shivering and depression of circulation.

The stimulating plan of treatment claims the sanction of greater antiquity than its rival. Aristotle recommended it. Celsus advises the use of stimulants in the first stage, and afterwards the use of mild dressings: he says, speaking "De Adustis," "*Sed dividi quoque curatio potest in ea quæ mediocriter exidentia, reprimentiaque, primò et pustulus prohibeant, et summam pelliculam exasperent: deindè in ea quæ lenia ad sanitatem perducant.*" — (Lib. v. cap. xxvii.) Paré, Fabricius de Hilden, Heister, Callisen, and others, recommend the burnt part to be held to the fire, or plunged into hot water; but this heroic treatment produces violent pain, and never has been much practised; it is contrary to all reasoning. Doubtless slight cases may get well thus managed, but then they would recover equally soon if left alone, or treated in any other way. Spirituous and resinous applications, as spirit of wine and turpentine, were recommended by many of the old surgeons in the first stages of burns; and were revived by Mr. Kentish, who based their use on some strange fanciful theories of analogy between burnt and frost-bitten parts. He thought that as in one the heat should be gradually raised to the natural standard, so in the other it should be lowered with equal care. He first applied very stimulating fluids heated by the fire, which were succeeded by others becoming gradually milder. With this external treatment he combined the internal administration of stimulants, combined with opium, to allay the pain. Though his theories were visionary, yet his treatment will be productive of benefit, in many cases, particularly where the injury is very extensive.

Greasy applications have always been extensively used in the dressing of burns; they were recommended by Hippocrates. Rags dipped in olive or linseed oil, and gently laid over the part, are a simple and safe remedy, and exclude the air. Carron oil, composed of equal parts of lime-water and linseed oil, is a very old application to deep and serious burns, and gained great celebrity, particularly where the skin had been considerably destroyed, as by the explosion of gunpowder. B. Bell recommends this liniment as an emollient dressing in deep burns. Mr. H. Earle advises the use of carron oil in those cases where the cuticle is raised or denuded, but the skin not destroyed: he advises that vesications be left alone, without they are very much distended. Where sloughs are formed, Mr. Earle preferred the stimulating plan in the first stage. Mr. Kentish combined the use of greasy substances with stimulating liquids. After bathing the burnt parts with heated spirits of turpentine, he applied a liniment composed of resin cerate, softened with turpentine, which he spread on linen. This liniment stops the pores of the cloth, impedes evaporation, and thus confines the effect of the spirit to the burnt surface. Mr. Greenhow's plan is essentially the same as this, only he spreads the ointment much thicker, and on the skin itself, and leaves it undisturbed; whereas Mr. Kentish orders the dressings to be removed once in twenty-four hours.

Many other greasy applications in the form of various ointments have been employed in burns. Baron Larrey dressed all deep injuries of this kind with saffron ointment, which he says diminished the pain, and excluded the air; he continued this remedy till suppuration had taken place. Delpech recommends that large ulcerated surfaces from burns should be dressed with opiate cerate.

Mr. Cleghorn introduced the practice of applying vinegar to burns. He says that it should be put on immediately, and its use continued till the pain has ceased. Afterwards, if sloughs were formed, he covered the parts with a poultice, sprinkling powdered chalk on the ulcers, to absorb the moisture. The use of cold vinegar has been recommended by some surgeons since Mr. Cleghorn's time, but its action is simply refrigerant, and it can possess little advantage over cold water, or saturnine lotion. If it is used warm, as Mr. Cleghorn sometimes recommended in very cold weather, it can merely act as an emollient, or perhaps be slightly stimulating.

Astringents, sedatives, and demulcents, have been made use of; the latter have been chiefly applied, after the first effects of the injury have gone off, and inflammation has followed. The principal remedies of this description which have been employed, are a decoction of quince seeds or linseed applied alone, or mixed with a decoction of poppy heads. Emollient poultices have been much used in deep burns; sometimes applied immediately after the reception of the injury, and at others not till after a previous use of turpentine dressings. The diluted solution of subacetate of lead has been thought to prevent the formation of blisters. Whether this effect is owing to its sedative properties, or only by its being astringent, is doubtful; if the latter, equal benefit may be derived from a strong solution of alum, which has also been frequently used.

Compression of the burnt parts with a circular bandage wetted with some astringent lotion, as liquor plumbi, has been employed by M. Marjolin and M. Bretonneau (*Thesis, à Paris*, 1815). The pressure is stated to ease the pain almost immediately, and to arrest the progress of the inflammation. M. Reichenhack (*Bulletin Général de Thérap.* Oct. 1833) recommends the bandage or or compresses to be soaked in a solution of *creosote*, which he says hastens the healing process. M. Lisfranc (*Revue Méd.* June 1836) employs a solution of *chloride of lime* with the same intention. M. Velpeau uses strips of lead plaster instead of a bandage, and he thinks that the beneficial effects which he has found to follow this practice are not entirely owing to the pressure exerted on the parts, but must also be referred to some peculiar properties in the plaster, as he did not find the use of a simple bandage equally efficacious.

Of all the more modern plans of treating burns, none have excited more attention than the application of raw cotton. This remedy was first used in America, but the most extensive trial of its efficacy was made by Dr. Anderson, of Glasgow, who applied it in all degrees of burns with the greatest success. It is necessary to put it on with some care. It should be finely carded, and applied in thin layers, several of which may be placed over each other, and then it is generally useful to support the whole with a bandage. Dr. Anderson found this mode of treatment ease the pain, calm the general disturbance, stop the progress or occurrence of inflammation, and prevent its consequences, as sloughing, suppuration, and subsequent contractions. When there were large vesications formed, he first pricked them.

The powdered flowers of the *typha*, or cat's-tail, which principally consist of soft silky hairs, have been applied to burns in the same way as cotton by M. Vignoles (*Thèses de Paris*, 1833), but they cannot possess any advantage over that substance, and are not so readily obtained.

Another remedy, which certainly has the advantage of being always at hand, is flour. This was recommended by Dr. Ward, of Manchester, to be thickly coated all over the burnt parts, which are to be then covered with lint. This will form a very impervious case, the moisture from the skin forming the under stratum into a kind of paste, which afterwards hardens.

Mr. Cox, in the Medical Gazette (vol. x. p. 672), recommends the nitrate of silver to be rubbed over the burnt skin, where it is only inflamed or vesicated, before any other application is made. He found this treatment hasten the process of cicatrization, and prevent the occurrence or progress of inflammation. MM. Berot and Cloquet say that burns should be treated like any other active inflammation, by the application of leeches in the first instance, and other common antiphlogistic measures.

The last new remedy the use of which has been made known to to the public, is treacle (Med. Gaz. Nov. 3). Mr. Leach says that this is to be applied in the slighter cases of burns only. This gentleman considers that his plan bears a great analogy to that of Dr. Greenhow, but I confess that I cannot see it. In the first place he applies it cold, and calls it a "refrigerant liquid," which will "cool the inflamed part." Now Dr. Greenhow applies his ointment warm; and from the turpentine and resin it contains, it must be a stimulating application. In the second place, Mr. Leach does not say how long his treacle dressing is to stop on; but mentions that, in common cases, he applies it on strips of calico, in M. Velpeau's way. By this I suppose he removes the treacled straps every two or three days, as M. Velpeau does the lead plaster; whereas Dr. Greenhow leaves

the ointment on till the parts are healed beneath it. Lastly, Mr. Leach does not recommend treacle to be applied in deep injuries from fire; while these seem the cases most benefited by Dr. Greenhow's system, which he says prevents suppuration even in those cases where extensive sloughs have separated.

Having enumerated most of the plans which have been proposed and practised in the cure of burns and scalds, I shall make a few remarks on this branch of surgery, in which I shall endeavour to shew that these injuries should be treated on general surgical principles, and not be regarded as specific injuries requiring any peculiar plan of treatment. If the surgeon has these principles clearly before him, the means by which he arrives at the desired end are of little importance. The principal indications to fulfil in the treatment of burns are to give ease to the patient as quickly as possible, by calming the pain and cutaneous irritation; secondly, to prevent or moderate the inflammation and suppuration; and lastly, to guard against deformities from the contraction of parts in healing.

In trifling cases, where the skin is only reddened or slightly vesicated, and the surface burnt not very extensive, it is of little importance what means we adopt, as they will get well nearly as quickly in one way as another; but the most rational treatment, and the one which causes the most immediate relief, is the application of cold, either by simple water or saturnine lotion, the use of which should be continued till the pain entirely ceases. In more extensive injury, where the skin is denuded or destroyed, and the parts beneath have perhaps lost their vitality to a considerable depth, what plan will most effectually prevent the occurrence of inflammation and suppuration? In all injuries where, from the destruction of the cuticle, the skin and other tissues are exposed, the most active cause of irritation is the contact of atmospheric air; therefore our endeavours should be directed to those means which will most effectually exclude it. On another occasion (Med. Gaz., July 8, 1837,) I stated that the most successful plan of treatment in incised and many contused wounds is to dress them, so as entirely to keep out the air; and the late Mr. Earle, in his clinical lectures, and paper in the Medico-Chir. Trans., makes the excellent remark, that this is the first principle to be kept in view in the management of burns, and he advises that whatever dressings are first applied, they should not be too soon removed. In cases where there are large vesications formed, but yet the skin is not denuded, it is of great importance not to remove the cuticle, as this is a very effectual covering from the air, and the fluid effused will often be absorbed, and the cuticle peel off, leaving the surface quite healed beneath it. If these blisters be very much distended, they may be carefully punctured with a needle. The principle being acknowledged that the exclusion of air is the great object, we must inquire what is the most effectual application for this purpose: and I may here remark, that it is a great pity that surgeons will not follow up some of the plans already tried, without being so anxious to discover something new. From my own observation, I am inclined to give the preference to cotton, applied in the way Dr. Anderson recommends, as this will form a very effectual covering, comfortable to the patient, easily kept on, and not liable to be disturbed by the movements of the part: as he says, "it excludes the air; by the slowly conducting power of the cotton, the heat of the part is retained, and a soft and uniformly elastic protection from pressure is afforded: it also forms a sheath or case, which absorbs the effused serum or pus, and gives the best possible substitute for the lost cuticle; but in order that the full benefit may be derived from this substitute, and to ensure an equable and continued support to the tender parts, until the new skin is formed, it is absolutely necessary that the cotton should not be removed, except under particular circumstances, until the real cuticle is sufficiently formed to bear exposure."

If this snbstance is not immediately to be obtained, the best substitute is flour, which when moistened by the discharge from the skin, or by fluid, with which the surface may first be wetted, will make a hard impervious case. It would probably be a very good plan to strew a layer of flour over the part, before the application of cotton, in all cases, as this would prevent the discharge from soaking into the covering. I am not quite so sanguine as Dr. Greenhow, to think that the exclu-

sion of the air will prevent the occurrence of suppuration in *all* cases; but I know from experience that it will in most.

With respect to that gentleman's mode of dressing these injuries, it is based on true surgical principles, but it seems open to some objections. In the first place, it will not form nearly so effectual a covering as the pitch which suggested the plan to his mind; for the ointment, containing a considerable quantity of grease, the heat of the parts will keep it continually soft; and where the injury has occurred on the posterior surface of the body, or on a part on which the patient cannot be prevented from lying, this cause must operate to such an extent as to disturb the integrity of the covering. In the second place, the application of resin ointment with turpentine is stimulating; and though this may be advantageous in the first instance, it will do no good afterwards, and will be less beneficial than a mere mechanical impervious covering. But as Dr. Greenhow has found this plan so successful, and uses it on the principle of excluding the air, he is quite right in continuing it, and making it known to the public, as the means are of secondary importance if they fulfil the end desired.

It is well known, that in extensive injuries from fire, there is great constitutional disturbance occasioned, particularly coldness and oppression of breathing. This latter effect is generally considered to be owing to suspension of the secretion of the cutaneous perspiration from the injured skin, by which means a greater quantity of watery fluid is carried to the lungs, causing their oppression; but this cannot be entirely the case, for one office of the cuticle is to prevent too rapid evaporation from going on from the surface of the body, and where this covering is destroyed, a greater quantity of fluid will pass off in this way, which may partly account for the great coldness and depression of the circulation. When an impervious coating of cotton, or other substance, is covered over the skin, the coldness and oppression of the lungs are often immediately relieved, as well as the pain, though the cutaneous exhalation must be more completely impeded. On this account I think that the difficutly of breathing must be referred to the injury of the nervous system, and the obstruction of the circulation.

I shall not say any thing here on the constitutional treatment of burns; this must be regulated according to the circumstances of the case, as in severe injuries from other causes. Stimulants, with opium, sometimes do good in the first instance, by relieving the pain and depression; but the tonic plan should not be continued too long, as it often does harm.

Contractions, arising from the absorption of the granulations after cicatrization, must be obviated, by keeping the part in an extended position, as Mr. Earle recommends, till the healing process is quite completed.

I am, sir,
Your obedient servant,
R. H. Meade,

Lecturer at the Middlesex Hospital, and Surgeon to the Western General Dispensary.

15, Bentinck Street, Manchester Square.
Nov. 8th, 1838.

RANULA CURED WITH CAYENNE PEPPER.

To the Editor of the Medical Gazette.

Sir,

The following may be interesting to some of your readers, if, as I believe, the mode of cure is not mentioned in any book, nor adopted in modern practice.—I am, sir,

Your obedient servant,
Geo. Harrison.

4, Great Marlborough Street,
Nov. 8th, 1838.

The butler, in a family which I attend, consulted me last April for a swelling in his tongue. The tumor was imbedded in the substance of the organ, a little to one side of the median line, had existed for some weeks, interfered considerably with mastication and deglutition, was excessively painful, and, when I felt it, was as hard as, and about the size of, a large marble. On the spur of the moment, and wishing to avoid the operation for ranula, I advised him to put some strong Cayenne pepper on the surface of his thumb and fore finger, to compress the tumor tightly, and to keep them there as long as he was able. Perhaps the old maxim (which I have read somewhere) recurred to my mind—

"Est melior medicina manûs quam quod medicus dat."

The consequence was, that an immense salivary discharge immediately ensued, which, in the course of three or four hours, amounted to two large cupfuls, as described to me. In three days the tumor had entirely vanished, nor, up to the present time, has there been the slightest tendency to a return.

MEDICAL GAZETTE.

Saturday, November 17, 1838.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

LONDON UNIVERSITY DEGREES.

In a previous number we considered the proposed regulations of the London University only so far as the education preliminary to the attendance upon medical lectures and practice is concerned. We come now to the purely professional part of the education, in considering which it must be borne in mind, that it is intended for a class of well-educated and accomplished young men, the sons of persons moving in a higher class of society.

We feel bound at once to state, that this part of the curriculum presents some improvements upon that which we commented on last July. Our correspondent, C. L., then charged us with unnecessary severity in the remarks which we made; but we willingly bear his censure, in the assurance which we feel that but for that severity, and the cordial assent which our observations received from all who were well qualified to judge in the matter, the alterations now effected would never have been made, but the scheme then proposed would have been adopted, though it could not have been carried into effect.

In the present report, we find that although no course of lectures, except that on practical pharmacy, has been expunged, some of the others have been shortened. Yet even now there is a most absurd superfluity. Although no one has ever supported with a shadow of reason the prodigious demands made by the Apothecaries' Company for attendance upon lectures; yet the London University surpasses even them. Comparing this part of its curriculum with those of the College of Surgeons and the Apothecaries' Hall (for with those of Oxford and Cambridge the difference is too great to admit of comparison), we find that the number of lectures required by each stand as follows:—For the College of Surgeons, 840; for the Apothecaries' Hall (including 30 clinical lectures), 1130; for the two together, 1350; and these must all be attended in two years and a half. But for the University there are necessary 1300, including clinical lectures, which we reckon at 240—that is, 40 on each subject in each year; or, considering (as the students will feel, and as the Apothecaries' Hall admit) an examination to be equal to a lecture, the whole number will be 1512, to be attended in three years. Surely the Medical Faculty never thus reckoned up the demands they are about to make on the time and patience of well-educated young men, whom they command to be at the same time occupied in dissecting, and in attending to the practice of an hospital, and all that appertains to the practical study of medicine—1512 hours!! It is truly exorbitant.

The Faculty seem to have striven to be eclectic; they have seized with one hand the sublime, and with the other the ridiculous, but they have inclosed within their grasp none of the middle and substantial common sense of the matter. They have copied, on the one hand, the example of Oxford and Cam-

bridge in demanding a previous liberal education, to fit the mind for the active study of medicine; and, on the other, they have imitated the example of the Apothecaries' Hall, in requiring the student's time to be spent in passive attendance upon a vast number of lectures. They have even exaggerated the systems of both establishments, and the result is, as might have been expected—a system inferior to either of them. Both of the systems which that of the new University seems intended to embody, are at least founded on plausible grounds, and are adapted each, in some measure, for the class for which it is intended. Oxford and Cambridge, for instance, profess, and with much justice, to teach men not so much to be, as how to become physicians: they teach them science generally, and leave them to apply their knowledge to medicine; and the best proof of the excellence of their system is in the result, that the Doctors of Medicine of Cambridge and Oxford are the very men whom the London University is anxious that its Doctors should equal, and who have raised the character of the physician to "the estimation which in this country it has always maintained." The Apothecaries' Company, on the other hand, assuming with less justice that students are unable to study by themselves, bind them to a passive course of attendance upon lectures: they require no previous knowledge, but a profuse study of medicine and every thing relating to it. The London University first requires its graduates to prove their capability of studying by themselves (for their preliminary education, having no regard whatever to medicine, can serve no other purpose), and then, as if dealing with so many children, marks out a fixed and unalterable plan, according to which they must be taught their profession. To a youth who receives his first introduction to science when he begins to study medicine, it may be necessary to fix a plan by which he may proceed over the unknown land, though we have no doubt it would be best to let him learn all the good practice that is possible, and no more science than is necessary; but surely one that is already accustomed to the language and pursuit of every science except medicine, may, when he goes in pursuit of medicine, be trusted alone. The present scheme would just treat the best graduates of Universities like the worst apothecaries' apprentices.

When we examine what the 1512 lectures are composed of, we find that the number required for each subject is, in every instance, less than the number required by either the College of Surgeons or the Apothecaries' Hall. But the great total is made up by the introduction of no less than five new courses—viz., comparative anatomy, general pathology, general therapeutics, hygiene, and practical chemistry (not to mention general anatomy and physiology). The addition of these to all those usually demanded would be only ridiculous, if the scheme did not include a cunning job, which it has been the interest of some of the Faculty to practise, and the misfortune of the others to overlook. It is impossible not to see in all this the anxiety to provide lectureships for five friends, and a monopoly of students for the Gower Street Hospital and School. It would be easier to name the five favourites than to imagine what other reason can be given for the introduction of these subjects as so many separate courses. No one has ever said a word in favour of the general therapeutics—perhaps because no one knows what they are; and those who have argued for general pathology have been clearly enough shewn to

be in error. And who, except the future Professor of it, can speak for hygiene, as a study separate from forensic medicine?

We think we can see the same favouritism for University College and its Hospital in some other of the regulations; as in this—that the pupil shall study "practical medicine and surgery, in an institution in which the treatment of patients is entrusted to the senior pupils, under the superintendence of the medical officers, during six months*." Now it is well known that the governors of our large hospitals will not permit pupils to have in any way the charge of patients; for neither dressers nor clinical clerks can be said to treat the patients to whose cases they attend, and house surgeons and apothecaries are always qualified practitioners. But it is equally well known that the Governors of the Hospital in Gower Street†, if indeed there be any such persons, will permit any thing to be done there. The public exhibitions of Animal Magnetism in that Hospital sufficiently proved this, and give ample reason to believe that they will permit its character, as well as its name of Valetudinarium‡, to be buried and almost forgotten; or will leave their patients to the mercies of the senior pupils, who have promised to take degrees "over the way"; if by these or any other means they can attract students and their entrance fees.

But to return from the motives that suggested it, to the curriculum itself. We find that the attendance in hospital practice is increased from two years to three. This is an improvement, copied from the latest regulations of the College of Physicians; but we cannot imagine any objection to a student's being brought at once to the practical study of disease: why should he not be much more in the wards than in the lecture-room throughout his whole period of education? The Faculty have clearly evidenced here, as in many other parts, the false and unpractical notions which they entertain. We pass over the "order of study," which exhibits only some ingenuity in disposing of several unnecessary things, so as to make them look essential.

The previous examination, a kind of *little-go*, which is introduced for the first time in England, would prove, we think, (if ever put in practice) a very useful regulation. We suggested such a plan in our number for April 28th, and mentioned there the advantages which we believe would flow from it. The system of conducting the examination in part by written papers, (a plan lately adopted also by the Colleges of Physicians and Surgeons) is also a good system, which we have often recommended. We can say the same for the practical part of the examination in anatomy and chemistry, and the institution of examinations for honours. Indeed, in the greater part of that portion of the Report which relates to the examination, there is much that merits praise; and we only fear that no one will be found who will wade through so much that is bad, to test the excellence of the last act.

In the regulations for the degree of Doctor of Medicine, it is ordained that the candidate should write and defend a Thesis. Surely this might have been omitted; the faculty must know that it is everywhere abused, "*usque ad absurdum*;" that a Thesis and defence, enough to satisfy any University from Oxford to Erlangen, may be, and are, almost universally bought for a few shillings. In another part of these regulations, they certainly shew a practical knowledge of their subject.

* See Report, p. 170.

† We use this name not out of disrespect, but as its only stable appellation.

‡ The name given to the hospital on the tablet of brass placed beneath the foundation stone.

The candidate for the Doctor's degree, who is to have been five years in practice, (to be certified we suppose by the maker of the brass plate on his door) is not to be examined in anatomy or chemistry, or any of those subjects which they compel him to occupy and lose so much time upon during his education, but merely upon subjects immediately connected with his practice. Now the Faculty have drawn this up from their own lives; none knew better than themselves that five years after a man has left the schools he has forgotten all that is not really useful, and yet may be a much better practitioner than when he knew all that was practically useless. Why, then, did they not remember (we are sure they have been told often enough), that what a physician neither retains nor requires in his practice, is not worth learning in his pupillage? Instead of thinking and theorizing on what scheme might make a kind of Utopian physician, they should have taken the examples of the best physicians in the kingdom, and having discovered wherein their superiority lay, they would easily have found how they might make pupils imitate them; for they would have seen, that on a sound and liberal, but not too multifarious education, the best physicians have grafted a sound practical knowledge of their profession, cultivating the collateral sciences rather as amusements than as essentials, and in many cases entirely neglecting them. To produce a class like them, they should expunge not only the five supernumerary courses we have already alluded to, but at least five more, so as to leave none but chemistry*, anatomy and physiology, medicine and surgery.

We have not now space to consider the rest of the regulations at any length. We will only remark *en passant*, that midwifery is treated with the same neglect as it is in all the other institutions. One short course of lectures is alone required, and not a word is said of any practical study of it. Candidates for M.B. are, indeed, to be examined in it, and Doctors or *their equivalents* may receive certificates of proficiency. Similar certificates may be had for surgery, which is rather a dirty way of giving a side-blow to the College of Surgeons, in return for which the College would do well to institute what its Council have often discussed, a board of examiners in midwifery, who might bestow true and very desirable diplomas.

We must not omit one other point in which the Faculty exhibit a practical knowledge of their business. The examiners they ordain "shall each receive * * * from the University chest," which probably means that they must see first how many pupils they have to examine; not being in a condition to maintain sinecurists.

On the whole, indeed, we cannot find sufficient reason to believe that if the system be rigidly adopted, examiners in medicine will ever be much needed. Indeed, the London University, as far as the scheme of its medical department is concerned, offers no advantage, but is fraught with many great inconveniences. Its enemies hope nothing more than that the Senate will act in accordance with the last report. We hope that they will learn in time to be wise, and have the scheme altered to its very foundation.

* The extent of this course is injudiciously reduced to 80 lectures!—Only think of adding a whole set of new subjects, and curtailing chemistry?!

SIR HENRY HALFORD AND MR. LOCKLEY.

We have not hitherto noticed the circumstances connected with the death of the late Mr. Lockley, because we did not regard them as forming a strictly medical question; but as more than

one correspondent has attributed our silence to other motives, we feel called upon to state our opinion on the subject.

It may be remembered that when the President of the College of Physicians introduced Sir Charles Aldis at court we instantly directed attention to the proceeding, in terms of the strongest censure, because that was a public act. When Sir Henry Halford, travelling with his friend, left him in an apoplectic fit at a station-house, we thought, as all else—save one—must do, that it was a proceeding remarkable for the absence it displayed alike of common feeling and common discretion; we did not notice it, however, because we regarded it as a private affair between man and man.

But further, having thus freely expressed our opinion, we take leave to add, that the purposes this transaction has been made to serve, and the manner in which it has been trumpeted forth, commented upon, and kept before the public, have much less the appearance of a generous and virtuous indignation than of a rancorous spirit of hostility and persecution.

WESTMINSTER HOSPITAL.

Clinical Lecture by Jno. Burne, M.D.

October 22nd, 1838.

Advantages of Clinical Instruction.—Nephritis, Anasarca; commonly called Inflammatory Dropsy.—Albuminous Urine.—Tests.

Gentlemen,—Clinical medicine, in which department of medical education you are now to be instructed, will afford you the opportunity of acquiring practical knowledge—the great end and aim of all your laborious studies. It is on this practical knowledge you will have to rely when you first encounter the responsible duties of your profession: it is on this, improved by your own experience, you will have to depend for the reputation which will be the measure of your success and advancement in after life.

A systematic course of lectures on medicine teaches you principles, and furnishes you with an outline of general, and a description of special, pathology. Clinical medicine teaches you the practice; teaches you to apply and make use of the knowledge you have hitherto acquired.

An abstract knowledge of the powers and virtues of remedies and of the long catalogue of diseases incident to the human frame, will serve you but little at the bed-side, until you have yourself seen these remedies applied and these diseases in actual existence; until, indeed, you have closely followed a course of clinical instruction. "Fit fabricando faber," experience teaches. A person may be highly accomplished in the science of music, and yet be unable to play on a single instrument. So may he be deeply versed in the science of mechanics, and yet handle with awkwardness a knife or a saw. It is your object to be the man of science, and the practical man too.

Experience in medicine is gained not only by actual practice on your own part, but by observing the practice of those already experienced. I know it is a prevailing opinion that a student treating cases himself profits more than by seeing the cases treated by others: but this I hold to be fallacious; for, in the one instance, he has to rely on his own resources, necessarily limited; in the other, he has displayed before him the resources of a mind enriched by long experience.

The fact is, that a student, having a case in charge, has his attention roused and fixed, and here lies the advantage; whereas, in following the practice of another, he is apt to look on with indifference. If he will but concentrate his attention and engage his mind actively in all that is passing before him, he will derive an advantage infinitely greater than any that can accrue from his own isolated and individual exertions. Andral collected the materials for his *Clinique Médicale*, and founded his own reputation, while following the practice of Lerminier.

Now, clinical medicine affords you opportunities of observing disease, of noting the effects of remedies, and of studying pathological anatomy. Hitherto knowledge has been presented to you in the abstract; now it will be presented to you in reality. You will no longer have to imagine what disease is, but will see it in actual existence. "Homines amplius oculis quàm auribus credunt: longum est iter per præcepta, breve et efficax per exempla."

In your study of disease at the bed-side, let me recommend you to avail yourselves of every occasion to educate, and so to improve the senses of touch, sight, and hearing. It is not every one (said a lady to me) who can feel a pulse. And why?

Because they have not educated the touch. How often do we see, in the exploration of the abdomen, one person distinguish a tumor deeply seated, which another will pass over! So of hearing. A novice in auscultation will find all confused and unintelligible when he first listens to the pathological phenomena of respiration; but, by perseverance, by educating the ear, he will in time discriminate every sound with nicety and correctness. So of sight. One person will discover at a glance a difference of motion and a want of symmetry in the sides of the thorax, which may escape the observation of another. The great point is, to acquire the habit and power of fixing the attention; and then you will analyze and comprehend what you see and hear and feel. To profit much from attending your clinical instructor round the wards, your mind should be in full activity, awake and attentive to all that passes before you; for merely to walk the hospital is to spend hours idly, which you may flatter yourselves are spent with a praiseworthy regularity.

In the practical study of disease it is essential to observe symptoms *singly*, and in the *aggregate;* singly, that you may familiarize yourselves with the different kinds of pain, the different aspect of the countenance, posture of the body, &c.; in the aggregate, that you may learn to determine and recognise special disease, for every disease is indicated by a certain set of signs co-existing, so that if any of the signs, which in the aggregate constitute any particular disease, are wanting, be assured that disease is not present. In this way you will perfect your means of diagnosis; that is, of distinguishing one disease from another.

In noting the doses and effects of remedies, and the circumstances which determine their administration, you will gain knowledge for yourselves instead of receiving it second-hand; and here you cannot be too precise in your observation; for depend on it, when you come to practise for yourselves, you will too often have to regret that you do not know the exact dose and the exact period in and at which some particular remedy was advantageously employed in some particular disease. How often has it occurred to me to ask a student the composition perhaps of a draught that he has seen prescribed twenty times with marked success, and find him at a loss for an answer, simply for the want of a precise and analytic attention.

By the dissection of the bodies of those who have sunk under disease, you will enjoy opportunities of verifying or disproving the opinions of your teacher, or those you may have formed for yourselves, and of putting to the test of experience the doctrines you have been taught in the lectures on medicine. You will, besides, familiarize yourselves with morbid appearances, with the evidences of dissection, and thus perfect your knowledge of pathological anatomy. And having watched a case through its whole course, and having examined, after death, the morbid appearances, you will be able to compare the symptoms with such appearances, and the results with the opinions of the case entertained during life; and, in this manner, accomplish yourselves in diagnosis, prognosis, and means of cure, and fit yourselves for the actual practice in which it is your anxiety and your ambition soon to be engaged.

Case XVI.—*Nephritis—Anasarca.*

The case I am now about to introduce to you and to comment upon is that of Richard Wood, aged 32, who was admitted on the 28th of September, 1838.

About the beginning of August he fell into the Thames, and allowed his clothes to dry on his back. In a fortnight afterwards he got wet again, and experienced a chill and shivering in the evening, followed by slight general indisposition. A week after this second getting wet, viz. about the 20th of August, he was attacked with pain deep-seated in the loins, and the urine became of a dark brown red colour. He experienced no further indisposition till the 14th of September, when he began to swell, first about the throat and head, then in the lower extremities; and on the 15th he was in a state of anasarca in a slight degree over all the body.

When admitted (September the 28th) he was affected with general anasarca, and great fulness about the epigastrium, increasing the size of his waist; the appetite and bodily health pretty good, the bowels regular, the pulse rather frequent and of good strength; the urine dark brown red, albuminous, and acid.

Sanguis è brachio ad ℥x. detrahatur.
℞ Elaterii gr. ss. ft. Pilula alternis auroris devoranda.

29th.—The blood free from buff, the crassamentum firm, the serum pale. He felt lighter and freer after the bloodletting.

Oct. 2d.—The elaterium purged him violently, to the extent of from eight to fourteen dejections, which were copious and watery.

The anasarca diminished immediately, and on the 5th was quite gone; he appearing not half the size he was when admitted seven days ago. The urine not improved.

℞ Olei Tiglii f3; Sp. Rectificati, f3xj.

℥ ft. Embrocatio, regioni renum omni nocti infricanda. Perstet.

21st.—He has continued the elaterium, which has operated as before: he remains entirely free from dropsical effusion, and has no pain or complaint, except feeling a little weak from the purging. The urine remains of a ruddy brownish colour, though less deep than at the last report; it is natural in quantity and acid, but still very albuminous. The skin natural; and a good eruption has been produced by the embrocation. His appetite became so keen under the use of the elaterium, that I was obliged to allow him full diet on the 8th ult.

Such is the case of Richard Wood.

What, then, is the disease? Dropsy unquestionably, of the kind usually called "inflammatory," in which blood-letting has been recommended by Dr. Blackall, on the ground of a supposed inflammatory condition of the system.

If this dropsy depended simply on an inflammatory condition of the system; and if, by antiphlogistic measures, as blood-letting, the dropsy was got rid of, the patient would be cured. But is this the case? Is this patient, Richard Wood, cured, now that the dropsy is entirely removed? No. And yet if you question him he says that he has no ailment remaining—that he feels quite well; which is borne out by his looks and buoyant spirits. But inspect the urine, and you will find it still albuminous, shewing that the functions of the kidneys is not restored to its healthy state; and experience has taught me that as long as there remains a trace of albumen in the urine, so long is it certain that the dropsy will return, if treatment is discontinued, and the patient allowed to resume his usual avocations and habits. This dropsy, then, did not depend simply on an inflammatory condition of the system.

The cause to which it must really be ascribed is a pathological congestion, an inflammation of the kidneys; as will be manifest by tracing the history of the case. The patient was exposed to an accidental exciting cause, the getting wet; which was followed by chills and rigors; then again by local pain referred to the loins, and general indisposition or febrile movement, together with a most serious and unusual derangement in the functions of the kidneys, as evidenced by the presence of albumen in the urine. Here you have a collection of symptoms indicative of an internal organic inflammation: the pain and lesion of function pointing distinctly to the kidneys as the seat. In this drawing you see represented the appearance of the kidneys in this state of inflammation.

The time which elapsed between the date of the accidental exciting cause and the supervention of the dropsy, was in this case unusually great—at least four weeks; the more common interval being from two to eight or ten days.

An accidental hyperemia or congestion of the kidneys, with albuminous urine, is by no means an uncommon occurrence: and often subsides in a few days without any disastrous consequence. This happened in the young man, Dodd, who was in the hospital some time since with valvular disease of the heart. He was suddenly attacked with feverishness, and as suddenly his urine became loaded with albumen; some blood had actually passed, the red particles of which were precipitated. He had had, as he told us, several of these attacks before, which had passed over in three or four days, the urine having recovered its natural characters. The same thing happened in the present instance; the feverishness abated about the fourth day, and the albumen and blood disappeared from the urine: no signs of dropsy manifested themselves. This, therefore, was a simple determination of blood to the kidneys, which subsided without passing into inflammation. The urine was precisely similar to the urine of patients in the first stage of the nephritis which leads to dropsy; and had the congestion of the kidneys persisted, a pathological action or inflammation would have ensued, and dropsy sooner or later supervened.

Albumen alone is not then pathognomonic or decisive of inflammation or disease of the kidneys; but co-existing with anasarca it is decisive.

The *treatment* of this case was conducted on the principle of subduing and eradicating an inflammation of the kidneys, which had already become chronic, it having existed, according to the history of the patient, already five weeks. Blood, therefore, was abstracted to the moderate extent of only ten ounces; for I had found by experience that larger blood-lettings, at so late a period of the disease, weakened the patients very much, without producing any proportionate good effect upon the condition of the kidneys. The elaterium was administered not merely to get rid of the anasarcous infiltration, but to excite a powerful determination to the mucous membrane of the intestinal canal, and so to relieve the kidneys; and with the same view was prescribed the croton oil embrocation, which has excited a high degree of counter-irritation on the surface of the body, in the region of the affected organs.

There is yet much to be accomplished in the case under consideration; for we must

not consider this patient cured until the albumen disappears from the urine. On most occasions I have found it impossible to keep the patients under treatment after they have become as well as Richard Wood is at the present time; they feel no ailment remaining, and, in spite of remonstrances, they leave the hospital and return to their former occupations and habits. The consequence is, that many of them return after a few weeks or months in a worse state of dropsy than before; others I never afterwards hear of.

Tests.—The most convenient and satisfactory tests for albuminous urine are *heat* and *nitric acid*. If both these agents give evidence of albumen, you may safely conclude that it is present in the urine. Other tests must be used with precaution, as they may lead to erroneous conclusions, on account of the number of the natural constituent principles of healthy urine, some of which may be decomposed by the tests, and yield a precipitate that may be mistaken for albumen. An error of this description occurred to myself. A lady consulted me on account of some puffy swellings about the ankles, and under the eyes, which were indeed œdematous. I examined the urine, and having a solution of the bichloride of mercury at hand, I made use of it as a test. Immediately some of this solution was added to the urine a dense white opaque cloud and precipitate were produced, which led me to conclude that the urine was albuminous, and the kidneys probably diseased. Next day, however, in observing the urine, I found it bright and clear instead of dingy and opalescent, as albuminous urine generally is; and having heated some in a spoon, no coagulation took place. The urine, in fact, was not albuminous. The bichloride in the previous experiment had been decomposed, and a lithate of mercury precipitated, which so resembled the precipitate of albumen as to be readily mistaken for it. I find that this occurs particularly when there is an excess of lithic acid in the urine. I have here a specimen of this kind of urine, to which, if I add a solution of the bichloride of mercury, an abundant white precipitate will be formed; as you see. The bichloride of mercury, then, should not be relied on as a test for albumen in the urine.

PHYSICAL SOCIETY, GUY'S HOSPITAL.

November 3rd, 1838.

DR. BABINGTON IN THE CHAIR.

DR. BARLOW read a paper containing some observations on the present state of humoral pathology. Having taken a brief historical review of the opinions of more ancient writers, he proceeded to examine the state of the question at the present day. "If," said he, "we turn our attention to the present state of our knowledge of the pathology of the fluids or humours of the body, and inquire how far changes in these are to be regarded as primary causes of disease—when they constitute links, as it were, in the chain of causation, although primarily induced by some morbid action of the solid structures—and when they are to be regarded merely as adventitious coincidences—we shall, I think, not only find that one at least of the fluid components of the animal frame may be considered to be sometimes primarily affected as well as any other organ of the body, but also that all are subject to changes which, although induced in the first place by some structural or functional lesion of a solid organ, may become in their turn the immediate causes of more remote and more extensive disease," &c. The doctor proceeded to illustrate these positions by arguments, and reference to several forms of disease; for example, where the blood was obviously deranged. Thus in one class of cases there appeared to be an alteration of the proportions of the natural components of that fluid, as in chlorosis, anæmia, rheumatism, and the like; and in another, products had been detected there which did not naturally exist in it; as, for instance, bile in jaundice, sugar in diabetes, and urea in that form of dropsy associated with albuminous urine and diseased kidney, described by Dr. Bright. He concluded as follows:—"I am aware that many diseased conditions of the blood have been entirely overlooked in this hasty summary, my object having been rather to point out the application of many facts generally known, than to announce new ones which might be questioned. I trust, however, that I have said enough to shew that the blood is as liable to disease as the liver, the lungs, the kidneys, or any solid organ of the body; and that its diseases involve the most serious consequences. I would also suggest, that through the medium of the blood we may hope to exercise no inconsiderable control over diseased action in other parts; and though I should be unwilling to declare myself the advocate of an exclusive humoralism, I do not hesitate to say that an exclusive solidism is equally absurd in theory, and equally pernicious in practice. 'The humoral pathology,' said Bichat, 'has no doubt been carried too far, but it is founded on truth, and in a great many cases we must allow that all should be referred to morbid humours.'"

Dr. Addison said it was the universally accepted opinion of the present day, that the circulating fluid of the body might become contaminated, and produce symptoms of derangement of the system; but this contamination was in his opinion a secondary result, brought about by the agency of the nervous system. The general question of humoral pathology, in reference to the blood, resolved itself into three parts. 1st, the changes produced in the blood; 2nd, the secondary effects thereby resulting; and 3rd, the remedial measures requisite in such cases. These were matters chiefly of chemical inquiry, and it would confer a great benefit upon science if chemists would direct their attention to the innumerable ramifications of the subject. But with regard to the secondary effects of diseased blood he would remark, that he had often in practice been struck with the very trifling derangement of the general system, in cases where that fluid was obviously and strikingly contaminated, *e. g.* jaundice. In the simple forms of this complaint, the constitutional disturbance was usually so inconsiderable, that the patient is himself often not aware of his condition until it has first been remarked by those about him. When jaundice, indeed, is associated with organic disease, as enlargement of the pancreas, &c. obstructing the gall ducts, undoubtedly bad symptoms existed —but these are the exceptions; and even here, perhaps, the general derangement is more properly to be attributed to the interruption of the natural functions of the organs, than to any contamination of the circulating fluid.

Renal dropsy at first sight appeared to countenance the views of the humoral pathologists, for here the blood seemed to be first in the chain of derangement; but reflection and closer investigation had led him to remark that the phenomena of this complaint closely resembled those of a poison operating on the nervous system, through the medium of the blood. But renal dropsy presents many anomalies; for although chemists had detected urea in the blood, they had likewise asserted that the injection of urea into the blood of animals was not followed by evil consequences. Also, inflammation of the kidneys, without coagulable urine, and with little interruption in the quantity of their secretion, will often produce as urgent head symptoms as could be observed in renal dropsy; but these were anomalies which the Doctor would not attempt to reconcile.

Dr. Golding Bird said that a proper acquaintance with the natural composition of the blood was essential, before its disordered state could be appreciated; in order to arrive at this, a minute chemical analysis was not necessary; but if it be examined somewhat upon the plan laid down by Müller, *anatomically*, or rather *chemico-physiologically*, it will be found to consist of animal and earthy parts. The latter being the salts principally; the former being albumen under differeut forms; viz. 1st. The solid albumen, or fibrine, which spontaneously separates when the blood is drawn from the circulation, &c. 2d. Albumen, which remains dissolved in the serum, and is detected by heat, nitric acid, &c. 3d. Albumen in combination with colouring matter, constituting what has been termed hæmatosene. 4th. Albumen in combination with salts—a form which had been pointed out by Dr. Babington, the president of the evening. Now, in healthy blood, these maintain a general uniform ratio to each other, which becomes modified under various circumstances. Thus the more robust the individual, the greater the preponderance of the first form, or fibrin; if he debilitates from any cause, the second or serous form increases; and as debility progresses, this in its turn becomes weaker; so that at length little or no solid matter remains for the growth and reparation of the body. In inflammatory cases, the converse obtains, for wherever there is a tendency to the formation of new products, as in pregnancy, the fibrine or solid albumen increases, and is detected in greater abundance in the blood.

In jaundice he imagined two distinct conditions of blood to exist. In the more frequent form, or simple jaundice, where there is little constitutional disturbance, the fæces are clayey, and the aspect yellow; the peculiar colouring matter of the bile existed in that fluid, and was detected by means of muriatic acid; but in another class of cases, where constitutional symptoms ran high, where the aspect was ashy, the fæces superabundantly bilious, &c. the resin of the bile was taken up. This he suggested was the inflammatory and more dangerous form of jaundice. Dr. Bird made some further remarks on the state of the blood in chlorosis and in bronchitis, which our space will not permit us to dilate upon; he expressed his belief that the blood is often deranged in the body, and gives rise to severe symptoms; but he admitted that all this was secondary to some prior exciting cause, which occasions it to be contaminated.

Mr. Chapman thought the instance of rheumatism was explicable on Cullen's theory of spasm of the extreme vessels. A healthy man is exposed to cold; the capillaries contract; the blood is thrown back upon the heart; a reaction takes

place to the extremities; nature exceeds her salutary boundaries, and thus arises rheumatism. So, in the treatment, in the majority of cases early depletion and antiphlogism will cut short, or greatly alleviate the attack.

Dr. Ashwell agreed with the author that chlorosis and anæmia essentially depended on primary derangement of the blood. Close inquiry would often elicit, in cases of the former complaint, that the patient had been ailing and in bad health from infancy, as though there had been some defect of nutrition from the beginning. Children might be born with diseased blood inherited from the parent; and in infancy the nervous system was very liable to be disturbed.

Mr. Greenwood was glad to hear it admitted that an ordinary practical man might appreciate changes in the blood without reference to minute chemistry. He believed that, in anæmia and chlorosis, the blood was altered in quality rather than in quantity, and that all the symptoms resulted from this change in the blood; yet he felt that the nervous system must have been the cause of the deranged blood, for this could not have become diseased of its own accord. The difference between ancient and modern humoral pathology appeared to him to be this: the former surmised and supposed the existence of foreign materials in the blood in all cases of disease; the latter had proved that a change in the proportion of its natural principles was all that was necessary in many cases.

Dr. Guy believed that altered blood might circulate for a time with impunity, but that sooner or later bad effects must follow. So it might be with jaundice; if the bile remained long enough in the circulation it would be hurtful; but in the examples referred to by Dr. Addison, it passes off before it can do harm; and in like manner, the experiment of the injection of urea into the veins, quoted by that gentleman, did not seem to him to be analogous to the case of renal dropsy, where it existed as the result of diseased action; for in the former case the kidneys act, and remove it quickly from the circulation; in the latter it continues to circulate, and produces the mischief.

Dr. Addison had often seen chlorosis without change of colour in the cheek—before, in fact, the blood had become affected—exhibiting all the symptoms of chlorosis except the colour, and requiring the same plan of treatment for its cure; he therefore did not agree with Dr. Ashwell that the primary source of chlorosis was to be found in the blood.

Dr. Barlow spoke in reply, and said that the discussion to-night had confirmed the opinion he had broached in his paper, that a great modification had taken place in the opinions of pathologists of the present day on the subject of humoral pathology.

Dr. Golding Bird said the ancients had surmised and guessed at much that the moderns had proved by experiment. He concluded by proposing a vote of thanks to Dr. Barlow for his paper; this was seconded by Dr. Addison, unanimously adopted, and the Society adjourned.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

November 13, 1838.

DR. BRIGHT, PRESIDENT, IN THE CHAIR.

THE first meeting of the season took place on Tuesday, November 13; Dr. Bright, president, in the chair; who congratulated the members on the prospects of the society, which he represented as very promising. Two papers were read to a crowded audience—the first by Mr. Arnott, the second by the learned president.

Case of malignant Disease occupying one half of the Tongue, treated by Ligature applied from beneath the Jaw. By JAMES M. ARNOTT, Surgeon to the Middlesex Hospital.

A YOUNG woman, aged 15, had a tumor the size of an egg occupying the right half of the tongue, and encroaching upon the base under the arch of the palate. It was firm and solid, of a purple colour, with a warty surface on some parts, a vesicular in others. A small blue swelling had existed and remained stationary on the part for nine years; but within the preceding three months had begun to enlarge, and had increased rapidly to its present formidable character. Various external applications and internal remedies had been tried without avail. The diseased mass could not have been included by ligature passed in the ordinary way through the mouth. An incision was made in the mesial line of the neck, immediately above the os hyoides; a double ligature was curved through the base of the tongue into the pharynx; one of these made to encircle the right half of the part behind the tumor, the other disposed longitudinally, so as to circumscribe it laterally; and the four ends of the two ligatures coming out at the wound in the neck, were then tied as tightly as possible; strangulation seemed effected; a portion of the tumor began to separate. But at the end of five days it was discovered that the sloughing was confined to the surface, and that the bulk of the tumor was still alive. A loop of wire was now passed through the mouth,

over the diseased half of the tongue, into the deep trench by which this was separated from the sound parts longitudinally and posteriorly; and this being tightened under the former, all vascular supply was cut off from below, and the part completely strangulated.

No dangerous symptoms attended the operation. The ulcerated surface left by the separation of the diseased mass healed kindly; and now, five months subsequently, there is no appearance of a recurrence of disease. The patient's deglutition is perfect. She speaks most intelligibly, with merely a lisp.

The author refers to a fatal case of this operation for cancer of the tongue by M. Jules Cloquet, and to another by M. Mirault, where ligatures, applied across the base only of the organ, were not followed by sloughing of the part, but where such benefit resulted from the diminution of the supply of blood that the appearance of disease disappeared, and the patient preserved her tongue.

Cases of Spasmodic Disease accompanying Affections of the Pericardium. By Richard Bright, M.D. F.R.S. President.

The object of the paper was to illustrate, by recent original cases, certain rare and important complications of cardiac disease, viz. different forms of nervous irritation supervening upon pericarditis. The principal facts adduced by the author were comprised in the histories and post-mortem appearances of three remarkable cases, each of which presented peculiar nervous symptoms, to which, for the most part, might, the author conceived, be attributed the fatal terminations. In all these cases the nervous symptoms were spasmodic, being in one those of chorea, in a second of trismus and epilepsy, and in the third of hysteria.

The first case was that of a young man of 17, labouring under articular rheumatism, in whom, after some apparent amendment, peculiar spasmodic symptoms supervened, resembling accurately in every thing, except undue violence, the spasms of chorea; these were soon followed by general convulsions after some days of apparent improvement, to which delirium, requiring the straight waistcoat, was soon added, and he died about the sixteenth day after the commencement of the spasmodic symptoms.

The post-mortem appearances were those exclusively of heart disease, namely, adhesions of the pericardium to the heart, with appearances about the valves of the left side that might be referred to endocarditis in some measure.

The second case was that of a gentleman, who, after exposure to cold, was attacked with articular rheumatism, and symptoms indicating rheumatic inflammation of the diaphragm, and pericardium probably also. To these symptoms, about the seventh day, were added difficulty of lying down, of breathing, and of swallowing; and on the ninth day of his illness the dysphagia amounted to trismus, and was accompanied by some opisthotonos; there were also some indicatious of pleuropneumonia in the left lung. Epileptic convulsions soon supervened, and he sank.

The post-mortem appearances were principally pleurisy in either side, with traces of intense pericardial inflammation along the course of the phrenic nerve; lymph on the diaphragm; and a circumscribed pleuritic effusion in the lower angle of the left chest.

After relating the particulars of these two cases, the author offered some observations and comments on them, pointing out particularly the probable sinister influence of the trismus, by preventing in the second case the administration of medicine, and of the occurrence of the intense pericarditic inflammation in the course of the phrenic nerve in the same case, as accounting for the nervous symptoms; insisting likewise on the value of mercury, with antimony and opium, in the treatment of such cases; and then referring to the literary history of the subject for the purpose of shewing that little attention had been paid to the fact of the occasional connexion of spasmodic symptoms with acute cardiac disease. In the course of the author's comments, short summary histories were given of five or six other cases, in which he had observed chorea in connexion with, and apparently arising out of pericarditic inflammation, all of which recovered, under remedies directed as against pericarditis.

The author then related his third case, authenticated by post-mortem particulars, being a case of hysteria connected with pericarditis. It was a case of a young lady of a phthisical family, and labouring under diffused glandular disease, but no strictly consumptive symptoms; who was at length attacked with dyspnœa in paroxysms, accompanied by shaking and apparently convulsive action of the diaphragm that threatened instant death, and resembled an aggravated form of hysteric convulsions. At the same time symptoms of omental tuberculation and other abdominal disease were observable, and she sank in about six weeks.

The principal morbid appearances were the following:—The heart and pericardium were firmly adherent in one mass to the sternum; the heart itself and its covering were glued together by yellow

matter of 1-4th of an inch in thickness; on the right side the phrenic nerve was involved in the diseased structure; the lymphatic glands were generally diseased, containing yellow deposits, as did also partially the surface of the right lung.

The author illustrated this case by some observations, for the purpose of shewing that the distressing symptoms were probably owing to the disease of the heart and pericardium; and the author concluded his paper by stating that he had since had another case, of apparently the same pathological conditions, which, however, having been prevented from post-mortem examination, he abstained from detailing.

UNIVERSITY EXAMINATIONS FOR DEGREES.

To the Editor of the Medical Gazette.

Sir,

In the last number of your journal, you give the Cambridge examination for the degree of A.B., and contrast it with that proposed for the same degree in the new London University. It appears to me, sir, that the examination which ought to be compared with the projected London one, is that held at the University of Paris. I copy, for the information of your readers, the requirements for the *Baccalauréat en Lettres*. By these it will be seen that it is placed within the reach of young men who have had a liberal education, and who are aspiring to practise an honourable profession. Should the senate of the London University insist on their present requirements, and should they admit to the examination all comers, their diploma will, no doubt, be sought for; but it cannot and will not be by young men of seventeen, just entering on their medical studies. It will probably be desired by those who, from want of residence at the Universities at present granting degrees in arts, have no means of proving that they have studied the subjects embraced by the examination.

The regulations of the University of Paris are as follows:—

Age—no stipulation.

Certificate of preliminary studies, two years; the one of rhetoric, and the other of philosophy. The certificate will be received from a public school, from a father, an uncle, an elder brother, or from any any teacher.

A certificate of good morals, signed by the municipal authorities of the candidate's place of residence.

The examination embraces Greek and Latin authors, rhetoric, ancient and modern history, geography, philosophy, mathematics, and the physical sciences.

Should you consider this worthy of insertion, it is at your service.

I am, sir,
Your obedient servant,
John Charles Cooke, M.D.

Coventry, Nov. 7, 1838.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, November 15.

Peter Whitley, Wrexham.—Richard Bryan, Stowmarket.—William Wood.—John Allison, Glasgow.—William Williams, Dolgelly.—Richd. Quiller Couch, Polperro, Cornwall.—John Massey Morris, Burslem.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Nov.* 13, 1838.

Age and Debility	21	Bowels & Stomach	5
Apoplexy	3	Brain	3
Asthma	8	Lungs and Pleura	3
Cancer	1	Influenza	1
Childbirth	1	Insanity	1
Consumption	34	Liver, diseased	1
Convulsions	29	Measles	3
Dentition or Teething	9	Mortification	1
Dropsy	3	Paralysis	1
Dropsy in the Brain	4	Small-pox	12
Epilepsy	1	Spasms	1
Fever	11	Thrush	1
Fever, Scarlet	8	Unknown Causes	54
Heart, diseased	3		
Hooping Cough	1	Casualties	2
Inflammation	9		

Decrease of Burials, as compared with the preceding week . . . 85

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

November.	Thermometer.	Barometer.
Thursday . 8	from 46 to 53	29·48 to 29 47
Friday . . 9	44 49	29·32 29·47
Saturday . 10	35 45	29·58 29·56
Sunday . . 11	28 38	29·62 29·66
Monday . . 12	33·5 45	29·96 30 19
Tuesday . . 13	28·5 45	30·28 30·26
Wednesday 14	28 46	30·17 30·12

Winds, S.W. and N.E.

Generally clear, except the morning of the 9th, afternoon of the 10th, and morning of the 11th; rain fell on the 9th and following day.

Rain fallen, ·825 of an inch.

November Meteors.—An account of these will appear in our next.

Charles Henry Adams.

NOTICE.

We have been unavoidably obliged to postpone Dr. Cape's letter, from an accidental miscalculation in regard to the length of some of the articles in the present number.

Wilson & Son, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, NOVEMBER 24, 1838.

LECTURES ON SURGERY,

DELIVERED AT ST. THOMAS'S HOSPITAL,

BY THE LATE MR. CLINE;

With Notes.

LECTURE IX.

Phimosis—Circumcision—Amputatio Penis—Extraction of Stones from the Urethra—Suppressions of Urine.

Phimosis.—By this is meant such a diminution of the extremity of the prepuce, that the glans cannot be denuded, and which may arise either from natural smallness of the part, or a contraction having taken place in consequence of inflammation. When there is a natural phimosis, which is generally the case in children, it occasions an accumulation of the secretions from the sebaceous follicles, or glandulæ odoriferæ, so that a cheesy like substance is deposited on the inside under the prepuce. When collected in quantity in that part, it is apt to produce inflammation, in consequence of which the parts become excoriated, and there is frequently a discharge similar to that from a gonorrhœa, and it has been mistaken for such. Patients who have a natural phimosis are subject to this, if they do not frequently syringe the matter out, and should have an operation performed for their relief. The smallness of the aperture is generally confined to the extremity: if, therefore, we divide it at the extremity, it will be often freed sufficiently to be drawn over the glans. This has frequently been done by slitting it up in its whole length laterally, for on the upper part is situated the vena tegumentorum, which usually furnishes a troublesome hæmorrhage: being slit up on one side, causes it to hang off on the opposite, which is very inconvenient and troublesome; therefore it is better to make two incisions, one on each side, but only half the extent; which is more conveniently done by a curved knife than any other instrument, pointed with a small bit of wax at the extremity. This generally gives sufficient room for the prepuce to be drawn back over the glans penis: after being divided, a great deal of inflammation comes on in the part; when this inflammation continues for any length of time, it more frequently depends on the position in which the penis is kept, than on any other cause, namely, suffering it to hang down; on the contrary, if the penis is fastened to the abdomen, so as for the extremity to be the upper part, then the fluids pass down the cellular membrane towards the pubes, and the inflammation soon abates. It is a considerable length of time before the parts become so loose again as for the prepuce to be brought forward, which patients should be apprised of, otherwise they find they are not at first benefited by the operation, as they had expected. During the time of healing the wound, the divided parts should be carefully separated, otherwise union would take place, and no benefit arise. In those cases where phimosis arises from inflammation, and is not the natural form of the part, it mostly appears in venereal cases, and most commonly from chancres. These not only occasion a phimosis, but some adhesions between the internal surface of the prepuce and the glans; in this case, where there are chancres on the glans as well as prepuce, during the cure the granulations of one are shooting into the other, in which case the adhesions may be discovered by passing a probe between the two. Here the operation is not so simple as in the former case; we should examine with a probe all round to find where the adhe-

sions are situated, which should all be removed by the knife, the part drawn back, after making the incision as before, and lint introduced between, from day to day, till the wound has perfectly healed. Very frequently, in long-continued venereal cases, the prepuce becomes extraordinarily thickened: in such cases, if it was to be slit up on each side, throughout the whole extent, yet there would be such a mass of thickened integuments that it would never after fold back from off the glans penis: here it is necessary to remove the whole prepuce.

Circumcision.—In such cases, when you come to divide the prepuce, you have a difficulty of distinguishing where the glans is situated, as it cannot be denuded. The prepuce should be first slit up to the corona glandis, and when you have sufficiently exposed the glans, the prepuce should be removed. Those who have a natural phimosis are subject to paraphimosis, which is the prepuce being drawn back behind the corona glandis, and there tightly embracing the penis, is incapable of being brought forward again over the glans; consequently a considerable degree of inflammation and pain follow, and great inflammation of the penis; for the patient is in the same state as if a ligature had been made round the penis, a little above the glans. The circulation is obstructed, and it may be considered as in a state of strangulation. If this has happened it would be right to try fomentations; or what is still better, snow. If recent, you may sometimes successfully reduce it, by grasping the glans penis, pressing it for a time, by which you will empty it nearly of all its blood. You then take hold of the penis with the fingers of each hand, and apply the thumb on the glans, pressing it back, and drawing the prepuce forwards at the same time. But sometimes the prepuce is so tight that you cannot succeed in this way, when it will be necessary to divide the skin in any part where the stricture is the greatest. It is useless to divide the skin in any other part but where the groove is situated, that is, where the pressure is the tightest: with the point of a lancet or knife you make two or three incisions, about half an inch on each side. Nevertheless, from adhesions, it cannot always be brought forwards, which we need not be solicitous about, having freed the strictured part. These incisions free the skin from embracing the penis, when you reduce it the same as before. This I have known happen to children who have had a phimosis. There is a case mentioned of a boy getting the ring of a key over the penis, and its swelling out at the extremity, so as to become in the same state as in paraphimosis. In such case you probably would succeed in removing it, as in removing a ring from the finger, when a good deal of swelling has taken place in the finger—by carrying a long piece of thread underneath the ring—the remainder you twist tightly round the finger, from the ring to the extremity; you then begin to untwist the thread from that end through the ring, by which means you will be gradually drawing the ring off.

Amputatio penis.—This is sometimes necessary from cancerous affections of that part. Sometimes irregular excrescences arise on the surface of the penis, at first sight not unlike venereal warts, which, after a time, become hard and painful; these ulcerate and put on a cancerous appearance, which will go on till the penis is entirely destroyed. I have seen the penis, scrotum, and testes, destroyed by the progress of cancer in this way. To prevent the progress of this disease the penis should be removed. This is sometimes all that is necessary, preserving as much of the skin as possible. This may be done by a circular incision carried round the penis, (the skin being drawn back), and then through it. A profuse hæmorrhage immediately follows, for four branches of arteries are divided, going to the corpus spongiosum and corpora cavernosa; besides, all the cells are bleeding, so that it is a bleeding surface. There is generally a necessity for tying these small arteries, which may be done by drawing them out with a pair of forceps, using a single ligature to each; then the integuments should be drawn over the stump, and secured by sticking plaster, except the orifice, into which a bougie should be introduced. This is necessary even when the inflammation is removed, to prevent the orifice being inclosed; for in healing the parts are all drawn together, and the extremity of the urethra becomes proportionally contracted, which occasions the patient to void his urine with much difficulty, and to be long about it. The bougie should be passed in two or three inches down the urethra, and kept in till it has healed, and some time after, as there is a disposition to contraction in the cicatrix, which would diminish the orifice of the urethra.

Extraction of stones from the urethra.—Now and then a calculus passing from the bladder becomes lodged in the urethra, and so far fixed that, after having passed a certain extent, the force used in voiding the urine is incapable of expelling it. Calculi about the size of an olive stone, and frequently of that shape, are every now and then passing through the urethra. They will sometimes get into the urethra, and gradually pass a little further each time of

voiding the urine, till at last they escape; but every now and then they become fixed in some part of the passage which may be smaller than the rest. When retained for any time they go on increasing in size, and their removal is absolutely necessary. If it has not already produced a suppression of urine, that will probably follow from the increase of the stone. The manner of removing it will depend on its situation. If near the extremity of the penis, it may be drawn out commonly with a pair of small forceps passed down the urethra; if this is impracticable, we next should make an incision through the penis to remove it. When situated beyond the scrotum, between it and the glans, you take hold of the corpora cavernosa, and keep the stone fixed in its position; then with a common knife dissect upon it on the under side, making an incision the length of the stone; it may then be easily pressed out of the urethra: this wound generally unites by the first intention in two or three days. Some have said that the integuments should be drawn back at the time of making the incision, so that when returned to their natural situation the external opening might not correspond with the internal one. This is very improper in cases of this kind, for if the internal wound should not close immediately by the first intention, the urine will pass through the wound, and effuse itself in considerable quantities under the skin, which would produce great inflammation, and in some instances has caused gangrene and mortification. When the stone happens to be lodged in that part of the urethra where the scrotum is adhering between the ligamentum suspensorium and bulb, it will be a very unfavourable place for the operation, for to remove it the scrotum must be cut through, which will endanger the passage of urine into that part, and produce general inflammation of the cellular membrane, which we should avoid if possible. To do this, if we cannot get it forwards, we should by a catheter or some such instrument push it backward. If you get it towards the perineum, you may make an incision and remove it at that part. If so fixed or wedged in the part that it cannot be removed, an incision should be made upon it, the external opening opposed to the internal one, that if the urine does get into the cellular membrane, it may at once escape by the wound. If there is not a free discharge of urine by the wound, a flexible catheter, or a hollow bougie, should be introduced into the urethra, to prevent its effusion into the cellular membrane.

Sometimes the stone is situated in the membranous part of the urethra, remaining there, and afterwards becoming very much enlarged. Mr. Warner gives a case of this kind in his Surgery. In such there is generally little obstruction, for there is usually a little groove on one side of the stone. When you pass an instrument down the urethra, you come at the stone long before you arrive at the bladder, and when large, you may easily feel the prominence *in perinæo;* this serves to direct the operator. A free incision should be made *in perinæo*, on the side of the raphé, as in lithotomy, carrying it between the bulb and crus, the whole length of the membranous part, and the stone then extracted with the forceps. Notwithstanding the considerable dilatation, an incontinency of urine does not follow; the membranous part gradually recovers its contractile power.

Suppressions of urine.*—This in men may arise from various causes, as inability of the bladder to contract when the functions of the nerves are interrupted, as is often the case in injuries of the spinal marrow; this is easily relieved by the introduction of the catheter, drawing off the water occasionally. Also, from a small calculus getting into the urethra, patients have a gradual contraction taking place, which becomes gradually smaller and smaller, till the urine comes to pass off in drops; at length the urine is not passed off so fast as secreted; this should necessarily be obviated by some operation: it happens mostly in neglected cases of strictures of the urethra. But another very common cause, which comes on suddenly, is a spasmodic contraction of the urethra, occurring frequently to those who have the canal in an irritable state. Those persons who have long-continued gleets are more subject to it than others. I have known men who have long laboured under gleets during the discharge have had very frequent evacuations of urine, yet on a sudden were attacked with a suppression of urine; and not uncommonly these spasmodic contractions of the urethra precede a permanent stricture. In these cases the spasm may frequently be removed by proper treatment. Sometimes it is attended with inflammation of the part, when venesection will be necessary, also purgative clysters; but what usually gives more relief is forty or sixty drops of Tinct. Opii. in a clyster, which will frequently in a short time remove the spasmodic state of the urethra; but what is still more successful is putting the patient in a warm bath or semicupium. Bladders of warm water to the pubis and perineum will often answer the

* The term "suppression" has evidently been confounded with retention of urine in the following lecture.—C.

purpose, producing a general relaxation of every part of the body. Nauseating doses of the Tinct. Mart. have been useful. A strong tobacco clyster has succeeded, but the patient was unwilling to undergo a second trial, from its rough action producing nausea and syncope. Frequently in the course of half an hour the urine will be completely voided in a full stream. In those cases, when you are at first unable to pass any instrument, there being such a firm spasmodic contraction of the urethra, you are now and then able to succeed by the use of a bougie, introducing it very gradually. In these cases it should be passed down the urethra to that part which is in the state of spasm, and should be left for a few minutes until the irritation produced by its introduction goes off; the parts not being in that state of contraction as at first, you are now to attempt to pass it a little further; so repeating the attempt, you by degrees are enabled to get it into the bladder. If you succeed in this way with the bougie, it should remain till the patient has a strong effort to void his urine.

In all suppressions of urine there comes on at times involuntary efforts of the bladder to expel the urine: if the bougie is in the bladder at the time of this forcible contraction, the patient should be directed to withdraw it instantly. In some of these cases, when there is inflammation, a blister on the sacrum has been found successful, and would probably be more so if applied to the perineum. The blister is objected to by some on account of the stimulant effects of cantharides being supposed to exasperate the disease rather than remove it; however, it has been found very effectual from experience in some instances of this kind, when it has not even excited strangury. But not uncommonly, in suppressions of urine, every mode of treatment is of no effect, the water goes on accumulating, and the patient's life is in hazard. Sometimes the bladder has burst; more frequently it has gone on to mortification, from the vast pressure made on the part: to prevent which it has been judged necessary to evacuate the water, and to effect which there have been three ways proposed:—One is by making an opening through the pubes, making an incision there, laying bare the upper part of the bladder, and thrusting in a common trocar. In performing this operation there would be very little danger of wounding the peritoneum; but there are two inconveniences attending it—viz. the difculty in retaining the canula after the bladder becomes contracted, which it does as the urine evacuates, and the canula slips out, when the urine, instead of passing through the wound, diffuses itself into the cellular membrane, producing in that part very violent inflammation. If the canula is kept in, it must be by the extremity pressing against the bottom of the bladder, and this may produce inflammation. Mr. Sharpe gives an instance of a canula making its way through the bladder into the rectum. This operation, then, is at least very troublesome, if not very hazardous.

Another operation has been proposed, that of puncturing the perineum with a trocar, in which way the water will readily be evacuated; but the puncture made in that manner through parts of such considerable importance may do great mischief; it might pass through the prostate gland, by which it might divide one or both of the vasa deferentia, therefore producing the same effects as castrating the patient. But the operation may be performed in another way very safely, viz. by making an incision as in cutting for the stone, carrying it gradually downward to the prostate gland, laying it bare, and pressing it on one side; this gives you an opportunity of carrying the trocar by the side of the finger and prostate into the bladder; withdraw the trocar, and the urine will be discharged freely. I once performed this on a lunatic. The trocar I used was a short one, and the canula rather too short to be retained in the bladder. Though I could not get the canula in I introduced a probe, and the water continued draining till the bladder was empty. The wound was left to itself. In this case I had an opportunity of seeing how little pain is produced in maniacs to what there is in other people. During the whole time he did not complain of the least pain; even when I had occasion afterwards to touch the stricture with caustic from time to time, he did not express the least pain.

There has been another mode of operating proposed and strongly recommended by Petit, which is making an opening through the rectum into the bladder, for which he contrived a curved trocar with a cutting edge, and a canula corresponding. The manner in which he directs the operation to be performed, is to carry the finger of one hand into the rectum behind the prostate; you then carry this instrument by the side of the finger, and thrust it through into the bladder. Having withdrawn the trocar, the urine flows through the canula. At the side of the canula are perforations to secure it in the bladder till the strictures in the urethra are removed. This is dangerous on account of the situation of the vasa deferentia, as they gradually approach each other; and when near the prostate are almost in contact, so that they are in danger of being divided by

the trocar passing through the prostate. If to avoid the prostate, &c. you carry your instrument far backward, you are in danger of wounding the reflection of peritoneum (1½ inch above the prostate,) between the rectum and bladder, by which the urine would be effused in the cavity of the peritoneum, and produce general inflammation, consequently the patient would soon die. I have seen this operation performed several times, but in no instance did it succeed.

Women have spasmodic contractions of the meatus urinarius, producing suppression of urine, and the same may occur from *retroversio uteri;* in this case the bladder would be situated too high to operate per vaginam, hence above the pubis would be preferable; but in other cases, where the catheter cannot be passed, the operation per vaginam is to be preferred. In suppressions of urine in women a similar treatment will be required as in men, in every respect; but the operation in them must be varied, from the different form of parts. The operation is more favourable above the pubes than in men, the bladder being nearer the os pubis; other objections the same as in men. The best way of performing the operation in women would be through the vagina with a curved trocar.

Hydrocele is a collection of water within the scrotum; or, more accurately speaking, within the tunica vaginalis testis, there forming a tumor of considerable size; but besides the accumulation of water in this part, there are other species of hydrocele spoken of by authors. They make several varieties, as the hydrocele of the tunics, by which is meant nothing more than the anasarcous state of these parts, when the tumor is not confined to one side of the scrotum, the whole scrotum being distended. We also find in books the hydrocele of the spermatic cord spoken of. As for the tunica vaginalis of the spermatic cord, we have no other membrane but the reflection of fascia going around it.

Besides, we have circumscribed cavities occasionally containing water, situated in parts about the spermatic cord; but then these are only to be considered as hydatids. Such hydatids may be formed within the tunica vaginalis and epididymis, or on the outside of the tunica vaginalis; or when there is an old hernial sac, which has become closed above, and whose cavity is open below, a collection of water may take place in that, and form a kind of hydrocele of the spermatic cord. The tumor here is affected by the abdominal muscles on the patient's coughing, but in a less degree than in hernia. There are varieties which are now and then taking place of these parts, which are very rare when compared with the hydroceles of the tunica vaginalis testis itself.

It may happen, from partial adhesions taking place in the tunica vaginalis, that water may be situated in more cavities than one. From hernia humoralis, a partial adhesion may take place; thus it may accumulate in two cavities, on which account the variety of the situation of the water not uncommonly renders the management of the hydrocele very troublesome. Therefore, before we proceed to the cure, we will point out the characteristic marks or appearances of this disease. Its progress is attended with little or no pain, though the enlargement is great; this increase is so very slow, that frequently it is unattended with pain. The tumor begins from below, and gradually extends upwards, generally uniformly round, and gradually as it enlarges takes on a pyramidal form, larger below than above; has a fluctuating feel extending from one part of the tumor to the other, and in some instances is transparent. However, this is a criterion which is very fallacious, as the tunica vaginalis is sometimes so thick that there is no transparency; and sometimes the fluid contained is so dark, from blood, that the tumor is quite opaque; therefore we should rather determine from the former appearances than this. It is distinguished from a hernia, by this last descending from above downwards, and also by the enlargement which takes place on coughing. A hydrocele also differs from a diseased testis, by being circular on its surface, or uniformly round, though this is not always the case. There is also the same uniformity in some diseased testes as in the hydrocele; also in some, the same softness of parts and fluctuating feel. In some cases these appearances are so similar, that you cannot distinguish which it is without making an opening, therefore it requires an operation merely of inquiry—a puncture to see if there is any fluid. There is one circumstance by which you are very fortunately enabled to judge when every other fails, viz., if a hydrocele, it is not so heavy as a diseased testis.

In recent cases, and in children, sometimes a solution of crude sal ammoniac and emetics have succeeded in curing it. If the patient is willing to have all that is necessary to be done in cases of this kind, you may proceed in such a manner with the operation as to go on with the radical cure, if it should be hydrocele; or to castrate the patient if a diseased testis. Hence it is sometimes necessary to apprise the patient that you will proceed according to circumstances.

The palliative cure consists in making a puncture into the tunica vaginalis and discharging the water, which may be speedily done with a small common trocar,

grasping the tumor in the hand, and making the puncture on the anterior and inferior part, as the testis is situated in the posterior part. Before you perform the operation you should ascertain the situation of the testis. You should make pressure on the part, and inquire of the patient whether he feels you squeezing the testis or not, by which you come at a knowledge where the testis is. But a common trocar penetrates with difficulty, therefore is a troublesome and painful instrument; a more convenient one is that which is flat; it penetrates more easily, having a sharp edge. Mr. Andrée has contrived an instrument better than these—an elastic canula, composed of two pieces of steel.

But it may be very easily performed by a lancet and a probe, which gives less pain than a canula; having first bent it, it will not slip out, and the water trickles from the opening. The only inconvenience is, that if you do not carefully introduce the probe before you have withdrawn the lancet, you will not be able to introduce it at all. As the accumulation goes on rapidly in many cases, few patients are capable of going longer than twelve months without submitting to the same operation; therefore by far the greater number of patients would rather undergo the radical cure, which consists in producing an inflammation which shall entirely obliterate the cavity of the tunica vaginalis, and which may be variously effected; besides which there has been an operation for entirely removing the tunica vaginalis, called excision, which is done by laying bare the tunica vaginalis and cutting it all away; but this is extremely painful, the tunic being an exceedingly sensible part, and very large in size; also, after the operation, very severe symptoms come on, for the testis being so completely exposed, violent inflammation takes place in that part—so much that many have died. It was recommended by Douglas, and once by Mr. Pott, but is now generally laid aside. Another operation is, that of introducing a sponge tent into the tunica vaginalis, and obliterating the cavity by producing adhesions. This has two objections, viz., the difficulty of keeping a tent in the part (it has now and then slipped out, and the water become evacuated); and sometimes it produces inflammation only partially, and partial adhesions also, so that the disease afterwards returns in the remaining part of the cavity.

Setons have also been used, which may be considered as a double tent, strongly recommended by Mr. Pott, for which he contrived an instrument without danger of wounding the testis, introducing a skein of silk above and passing it below.

In some cases this has failed to cure, by producing only partial adhesions; the water escapes on the introducing of the seton; and the membrane falls into folds round the testis. The inflammation may be sufficient round the seton, but may not extend to distant folds, hence partial adhesions arise; of this we had an instance in a patient of Mr. Martin's, in this hospital, who performed the operation exactly as recommended by Mr. Pott; there was a collection of water laterally.

Another mode is by incision, which is by laying open the tunica vaginalis throughout its whole extent, from above downwards; thus general inflammation is excited throughout the whole membrane, and general adhesions are the consequence, and no danger of further accumulation. To prevent which, Mr. Hunter has proposed a mode of conducting the incision, which has been very successful, by introducing some extraneous body, and keeping it in till suppuration has come on, when it must granulate. When granulations are thus formed, the extraneous substance may be removed; then the parts will unite, and the cavity be obliterated; the most convenient substance is Farina Lini. Lint is apt to stick about the parts, and with difficulty afterwards removed. This last is a very certain mode of producing the cure, and has this advantage of being able to ascertain the state of the testis, whether there are such adhesions of it as are necessary to be removed. In the end of about five or six weeks the patient is generally cured.

Another mode is by caustic, which was the practice of this hospital for a great number of years. It has been particularly described by Mr. Else, and has some considerable advantages. A caustic case is made of the size of a sixpence, and an inch deep, to be filled with the common caustic, made with soap lees and quick lime; this may be left on till the next day. The pain it produces is inconsiderable in general; for when caustic is acting on a sound surface the pain is not very great, it acting very slowly, and goes off in about two hours. The success depends on laying on caustic enough, and letting it lie long enough. Under an idea that a small quantity would act equally with a large one, some have only acted upon the skin, and no further. This is a chemical process the caustic enters into, and combines with the animal substance; and you must have a sufficient quantity to extend its action down to the part. The caustic being removed on the next day, the part should be supported with a bag truss, with a little common dressings to the part. In a few days inflammation is excited in the tunica vaginalis, which is kept in a distended state by the water within. If great pain and tension, with colicky sensations and fever

arise, a very small puncture may be made through the eschar to discharge a little of the water. It would be improper to evacuate the whole, as it advantageously acts as an extraneous substance. Obliteration is here also effected by granulation, for the inflammation cannot produce adhesions in the sides of the tunica vaginalis, till at length it goes on to suppuration, when the eschar gradually ulcerating, separates from the tunica vaginalis, and the water is gradually discharged. Coagulable lymph is discharged in the form of sloughs; the internal surface goes on to granulate, and produces complete adhesions throughout every part, and the patient becomes perfectly cured. I have tried this myself, and seen it in Mr. Else's practice, and from what I have observed, think it the mildest mode of all others. There is generally less inflammation, though sufficient to produce a cure, and less symptomatic fever; therefore the patient gets well with less pain, and may generally go about his business, it being unnecessary for him to keep his bed. The only advantage of incision over the caustic is being able to see the state of the testis. In those cases of hydrocele, where there is any doubt of the state of the testis, I should prefer incision. I have known, when caustic has been applied, there has been no occasion to confine the patient one day. Every now and then the patient dies in consequence of the treatment, under every mode of cure. I knew of two who died under the use of caustics, but they seemed to be unfavourable constitutions. In one there was a disposition to apoplexy; in the other there was stone in the bladder. Also, there are many who would submit to caustic that would not submit to the knife.

CLINICAL LECTURES ON MEDICINE,

Delivered at the Meath Hospital, Dublin,

Session 1837-8,

By Professor Graves.

Lecture IV.

Subject of Hereditary Diseases continued—Remarkable Exceptions to the General Laws of their Transmission.—New method of treating certain cases of Epistaxis, and of preventing Chilblains; on the Modes of taking Exercise prescribed by Hippocrates; on the Healing of Ulcers by Scabbing.

Gentlemen,—We last spoke of hereditary diseases, especially gout. When a disposition to any malady is transmitted from parent to child, it frequently happens, as we have already seen, that this disposition remains entirely latent until an advanced period of life; sometimes, however, although not powerful enough to produce the disease in question, with all its characteristic attributes, it is nevertheless sufficiently strong to give rise to a certain degree of constitutional disturbance, and to occasion the appearance of one or several symptoms,—an offspring which the attentive observer may trace to the parent stock. Thus, the hereditary gouty diathesis often manifests itself by periodical derangements of the digestive organs, of the urinary and nervous systems, but no inflammation of the joints, without which it is erroneously thought that the disease cannot be gout. As gouty dyspepsia requires a very different treatment from the other forms of indigestion, it is a matter of primary importance that the practitioner should be able to recognize its true nature; but this he will not—he cannot do, unless he bears in mind the general principles I have spoken of, for gouty indigestion has no special characteristics; we can only distinguish it, when unaccompanied by affections of the joints, by the following indirect method:—If we find, *in a patient with hereditary claims to gout,* that indigestion has been frequent, but with intervals of good health between each attack,—if, too, the general state of the constitution seems to undergo a temporary improvement after each fit,—if the fit of indigestion often comes on without any apparent cause, and often cease unexpectedly, and, as it were, capriciously,—if the dyspepsia, while it lasts, produces a more than a proportionate degree of depression and nervous ailment,—if the urine exhibits, during its continuance, the well-known lateritious and pink sediments,—then the experienced physician will not fail to penetrate the obscurity in which the disease is enveloped, and will detect the workings of the hereditary gouty taint. In some persons this taint occasions a chronic and very troublesome indigestion, remarkable for distressing and almost irremediable flatulency; and this symptom alone may lead to the detection of the true nature of the disease. These observations will, I trust, prove useful, gentlemen, in enabling you to discover the origin of many anomalous cases of dyspepsia, which otherwise might have escaped detection; and here permit me to observe, that you will find nothing better calculated to command your patient's confidence than an occurrence such as this, which proves that you can name a disease from seeing but a few of its features: this betokens true accuracy of observation, and shews that practical knowledge may be applied with a degree of certainty little inferior to that which ensures credit to the anatomist when he ascertains the genus by examining a few bones of an animal whose entire skeleton cannot be obtained.

The laws which govern hereditary diseases and defects have not yet been sufficiently investigated. In some families the hereditary tendency is confined to the males; thus, I know a gentleman whose father and paternal uncles had icthyosis, while his aunts were not so affected; the gentleman himself and some of his brothers, but none of his sisters, had the same malformation of the skin, which was again transmitted to his sons, but not to his daughters, *although, through one daughter, it descended to a grandson.* Dr. Copland mentions several examples of hereditary icthyosis, in all of which it was confined to the males of a family; the brothers, Lambert, could trace it back through five generations, all the males of which were affected by it. Dr. Copland says "that it is very rarely observed in females." Dr. Ireland and I have seen it, however, in the females of a large and otherwise healthy family, whose features were very handsome, and complexion fair and beautiful; on the trunk and lower extremities the fish-skin existed to excess, so that of these ladies it literally might be said "*Desinit in piscem mulier formosa superne.*" The skin of the children in this family did not begin to deviate from the natural structure until they were one year old. I know a family remarkable for the number of stutterers it contains: this defect has existed in several successive generations, and is confined exclusively to the males. Though the females themselves never stutter, *yet the hereditary defect frequently reappears in the sons of the female branches.*

My friend Dr. Prichard, of Bristol, brings forward numerous examples proving that personal deformities are not unfrequently transmitted in families in the male line alone, or in the female alone. This has been exemplified in some cases where the males, for several generations, have had supernumerary fingers and toes, while none of the females were so affected. In the family of the porcupine man, described by Mr. Lawrence, all the females escaped, while the males were affected with the same cutaneous deformity.

These facts, gentlemen, lead to many interesting considerations. In the first place, it is well worthy of inquiry whether certain hereditary complaints do not affect one sex more than the other. It appears very probable that gout, for instance, descends more usually to the males than to the females. What law as to sex is observed by hereditary apoplexy, epilepsy, insanity, &c., future calculations must determine; certain it is, that in some families these diseases affect one sex more than the other,—an observation also applicable to phthisis. In the second place, we may remark, that mental capacity and moral qualities occasionally observe the same laws; thus in some families activity of mind and talents, and in others certain virtues and vices, are confined chiefly to one sex. The same is true of likenesses, which are not necessarily handed down from parent to child in regular succession, but are sometimes subject to strange and unaccountable deviations; thus, it is common to find the son quite unlike the father, while the grandson presents a striking resemblance to the latter. In some families a likeness long lost suddenly reappears, to be again transmitted through several generations, when it once more vanishes, perhaps, but for a time. This fact I have observed in the picture galleries of old families; and I have felt no little interest in the observation, being convinced that what is true of likenesses, holds good with regard to diseases, and in this sense hereditary diseases are not only visited on the descendants by direct and uninterrupted transmission, easily traced, and necessarily attracting notice, but are handed down *per saltum* to distant generations. As the records of family complaints are usually very imperfect, and do not extend beyond two or three generations, it thus happens that diseases arising unexpectedly and simultaneously among many of the same stock, excite great surprise, for the sufferers are necessarily ignorant of the true source of the evils which beset them.

A man admitted in the beginning of November, presented some symptoms worthy of observation. He is about 45 years of age, very rubicund, and bears on his face an exuberant crop of well-earned pimples, whose natural red glow was dulled by a jaundiced hue of skin, indicating hepatic inflammation; he had also ascites and anasarca. When long-continued intemperance has broken down the constitution to the extent of producing hepatitis, jaundice, and ascites, the case is almost always hopeless; and such I pronounced his to be. His urine was at the time copious, pale, and albuminous. As the hepatic region was tender, and bowels confined, leeches and moderate aperients were used, but without any well-marked benefit. In this state he continued for some time, when suddenly his right hand and wrist were seized with violent gouty inflammation, which lasted for several weeks; from this time the hepatic inflammation (relieved, but not cured, by the means employed,) began to subside, the jaundice gradually disappeared, and the dropsical effusion was absorbed; in short, the man quite recovered in the course of a month,—a result, in my opinion, more to be attributed to the gouty inflammation of the joints than to the mild mercurial alteratives and local remedies, employed. In a lecture formerly

published, I brought forward many examples of hepatic inflammation, and jaundice, coming on after the subsidence of arthritis. In the case before us the reverse was observed, for the gout followed and relieved the hepatitis. It is worth remarking that in this patient the attack of gout did not alter the urine, which continued to be copious, very pale, and deficient in the lithates,—a state of secretion very different from that usually observed during a paroxysm of gout.

I published, some years ago, a case of gout, accompanied by the same unusual symptoms. The patient, a gentleman subject to hereditary gout, presents also the additional anomaly of being attacked without any preliminary or concomitant dyspeptic symptoms. You are aware that many writers, and among the rest Dr. Copland and Dr. Macleod, dwell on the connexion between the gouty paroxysm, and the preceding dyspeptic symptoms; and I believe such is generally the rule. But the case to which I have just alluded, forms a very remarkable exception. This gentleman never labours under dyspeptic symptoms: he has neither acidity of stomach, nor flatulence, nor irregularity of bowels; he eats with an excellent appetite, and all his digestive functions proceed with the utmost harmony and regularity. Yet with all these advantages, and in the midst of blooming health, he is attacked with gouty paroxysms of the most violent description I have witnessed for many years; and what is equally remarkable, immediately before the gout localises itself in one of the extremities, he begins to pass urine in great abundance, of a pale colour, and quite free from the lithates and other deposits generally found in gouty urine. In fact, each fit of the gout is preceded and accompanied by a copious diuresis, in which five times the usual quantity of urine is passed; yet this gentleman derives almost immediate relief from the use of colchicum. I bring forward these cases to shew that a disease may exist and make its appearance in a very marked manner, without some of those symptoms which have been generally regarded, if not pathognomic, at least highly characteristic.

Indigestion and *fever* are the two states of the system in which the *lithates* are surest to appear in morbid abundance in the urine; in phthisis, although a patient has tubercular pneumonia and cavities, yet he will not have such urine unless he has hectic fever; *gouty attacks, when not preceded or accompanied by indigestion, and when unattended by fever,* may also fail to exhibit this urine, which consequently must not be considered as an essential, but only as an accidental symptom of gout.

In truth, gentlemen, we should be very cautious in concluding that any one symptom (or rather the diseased state which gives rise to that symptom), is the cause of any other, in any given disease. Last winter I demonstrated that the anasarca of scarlatina does not depend on an inflammation connected with the efflorescence directly, as was usually supposed; and lately Mr. Colles and I had occasion to observe a lady, in whom jaundice was for a fortnight preceded by extreme itching of the skin: this proves that in jaundice the itching so frequently observed does not, as we have hitherto thought, depend on the bile deposited in the cutaneous tissue producing irritation, for here the itching preceded its deposition, or at least that of its colouring matter. Whether the acrid uncoloured principles were first deposited, and caused the itching before the deposition of the coloured particles made the jaundice apparent, must remain undetermined.

Permit me now, gentlemen, to direct your attention to the treatment of one form of bleeding from the nose. It not unfrequently happens that epistaxis constitutes the only ailment to which young persons are liable. I was consulted by two gentlemen within the last year, the one eighteen, the other twenty-eight years of age; they were both healthy in every other respect, and were both liable to bleeding from the nose, sometimes slight, sometimes copious, and then producing a degree of debility proportionate to the extent of the hæmorrhage; no disturbance of the digestive organs, of the heart, or of any viscus or function, was discoverable. There seemed to be but one defect in the constitution, scarcely explicable except on the somewhat mechanical hypothesis of a superabundance of blood, accompanied, perhaps, by a defect in the process of sanguification, whereby the blood's fluidity was altered. These ideas, borrowed from the now antiquated humoral pathology, served to indicate the method of treatment; and having no better guide to follow, I proceeded to put the plan thus suggested into execution: I accordingly advised my patients to live as dry as possible, or in other words, to restrict themselves to a minimum of drink. I directed them at the same time to take about half a drachm of dilute nitric acid daily, in divided doses. Although the reasoning which led to its adoption is scarcely tenable, yet the remarkable success of the treatment renders the result worth recording.

Hippocrates, in his curious and instructive work on diet, insists much on attention being paid to the quantity of drink allowed to patients in different diseases; it is singular, however, that he nowhere speaks of restricting the quantity of drink in cases of hæmorrhage.

Dr. Williams has lately recommended the dry treatment in catarrhal affections of the lungs attended with increased secretion. In young persons, when the sputa are abundant and easily gotten up, I can attest the efficacy of an almost total abstinence from drink. Not long ago, I was called to see a young lady, then on a visit in the house of the venerable Doctor Perceval: she had been blistered, and had taken large quantities of squills, ipecacuanha, autimonial wine, and other expectorants, and had refrained from solid food, and indulged freely in demulcent ptisans, whey, tea, &c.; these means, with confinement to her room, had been continued about a week without the slightest benefit; the cough was incessant, depriving her altogether of sleep, and accompanied with much wheezing, and an abundant easy expectoration. All remedies were laid aside, an almost total abstinence from drink observed, and a strikingly rapid cure effected. In his work on Diet, Hippocrates gives some hints worth attending to; thus, in cases of constipation, he recommends a very varied diet, and he does so on good grounds, for a simple uniform diet is very apt to occasion constipation. Hippocrates lays much stress on different sorts of exercise in different states of health: riding, walking, running, wrestling, and rolling in the dust, &c. &c. are all examined at large, and recommended as suitable to particular conditions of the constitution; but running, riding, and walking, have also their specified varieties, not merely as to duration and velocity, but as to direction, for he carefully distinguishes locomotion according as it is continued in straight lines, in curves, or in greater or less circles, on flat, or on hilly ground, &c. &c. Exercise, in curves or in circles, appears to have been a favourite gymnastic remedy among the Greeks; it is now quite neglected, but perhaps undeservedly, for running, riding, or walking, in curves or circles, must bring a number of muscles into play, which are comparatively unemployed in rectilinear progression. The effects on the circulating and nervous systems must be likewise different, as is evident from the remarkable disturbance they undergo in the circular swing.

Perhaps the ancients were led by religious prejudices to attribute importance to curved and circular locomotion; even at the present day, a superior degree of sanctity is attached by certain nations to dances performed in circles. Mrs. Guthrie, writing from Eupatoria, remarks, "that she observed, at a Tartar mosque, a sort of holy wheel of whirling fanatics who kept flying round in a circle; the reverend father, who is placed in the centre of this curious group, keeps spinning round till he turns his brain; and if he expires on the spot, which sometimes happens, he becomes a martyr saint of the Mahometan church."

It is worth noticing that Hippocrates recommends emetics in many chronic diseases; sometimes he directs them to be taken fasting, but usually after a full meal. Where indigestion is accompanied by headache, hemicrania, or brow-ache of an intermitting character, and in cases of dyspepsia where the tongue is broad and flat, and loaded with a white mucus, I have often imitated this practice, and made my patients eat a full meal of various substances, animal and vegetable, about half an hour before they take the emetic. The action of the medicine is not near so distressing, and it weakens the stomach much less than when taken fasting; its effects are also more striking, as it operates when the stomach, busily engaged in the process of digestion, is much more vascular than at other times, and is pouring forth its secretions in greater abundance.

Want of time has prevented me from laying before you, gentlemen, a continuous and detailed series of remarks upon some one or two important subjects; and consequently I have to-day been obliged to confine our attention to matters having no natural connexion, other than their being all of a practical nature; you will therefore, I trust, excuse the discursive and rambling scope of the present lecture, which is intended, like a frame, to hold and bind together sundry detached observations and remarks unworthy of a more detailed extension, but each deserving of at least a passing notice. Many persons, especially children, suffer much from chilblains, although this troublesome affection is often met with in the most healthy constitutions; yet, when the disease proceeeds to a very great extent and degree of intensity, and occurs with violence, where the exciting cause, exposure to changes of temperature, has not been sudden or remarkable, we may then conclude that the sufferer's diathesis is decidedly scrofulous. This affection ought consequently to excite the attention of parents; for although in general it is merely a local ailment, yet in some children it indicates a general weakness of the constitution, and in all occasions much pain and annoyance. Sir Benjamin Brodie, by his admirable observations on the nature and cure of corns, published in the 17th volume of the MEDICAL GAZETTE, has shewn that affections, vulgarly reputed to be beneath the dignity of the medical profession, may afford a legitimate and ample field for our interference and assistance. In order to prevent the formation of chilblains, we must endeavour to protect the skin from the operation of the usual exciting cause of

the disease, and, in addition to cautioning the children to avoid exposing their hands or feet to rapid transitions from cold to heat, we should endeavour to render the skin capable of bearing moderate changes of temperature with impunity. This is best effected by washing the hands several times a day, at first with tepid and afterwards with cold water, mixed with a small porportion of spirits or of *Eau de Cologne*. Some parents do much injury by making their children wear flanel or woollen gloves, even in the house. Stimulating liquids, such as strong brine, have long been deservedly popular as preventatives of chilblains, and were recommended by Dioscorides; but none of those usually employed seem to me as efficacious as one which I was the first to use, viz. a solution of sulphate of copper in water, in the proportion of ten grains to the ounce. This must be diligently applied to affected or suspected parts of the skin with a camel's hair pencil; and as soon as the moisture dries off, the skin should be well smeared over with spermaceti ointment. The sulphate of copper lotion may be applied two or three evenings in succession, until it has produced a manifest effect on the skin; it must be then discontinued for a few nights—again, however, to be resumed as soon as the natural soft and tender texture of the skin seems about to return. You must be careful to enjoin the application of the spermaceti after each use of the lotion. By this simple plan, commenced early in winter, many children, previously martyrs to chilblains, have been completely protected. It is probable that the nitrate of silver would answer equally well, did it not discolour the skin in so unseemly a way.

A case, which deserves a brief notice, is that of a man in the chronic ward, who had old ill-conditioned ulcers on his thighs when admitted. These ulcers constantly discharged a quantity of foul sanies and unhealthy pus, and had remained open for several weeks. Mr. Parr applied an astringent lotion for some days; but as I thought I could cure him much more expeditiously, I ordered the lotion to be discontinued, and had the sores carefully dressed with the beaver or fur plucked from a hat. This was applied with the view of absorbing the discharge, and concreting, so as to form an artificial scab, which tends at once to protect the raw surface and check the formation of fresh matter. The result accorded with my anticipations in this instance, for the ulcers dried up and healed in a few days. I have followed this practice of producing an artificial scab for the last fourteen years, and I can recommend it strongly as applicable to the successful treatment of certain descriptions of chronic sores, and, indeed, of some recent wounds. Let us consider for a moment how the consolidation of detached or divided parts is accomplished. In all your books on surgery you have an account given of a process which is termed adhesion, or adhesive inflammation, which in itself is looked upon as a kind of morbid process. It is unnecessary for me to enter into any argument to prove the fallacy of this notion, for Dr. Macartney has established the fact, that what has been termed adhesive inflammation exists no where except in the minds of surgical writers. He has shewn that healing is always most rapid and complete where no inflammation exists. He has proved that wounds in which no inflammatory disturbance is going on, heal most readily; that where there is a simple incised wound, or solution of continuity without laceration or bruising, and where proper care is taken to keep the parts in complete apposition, they unite, not by means of inflammation, *but by a process of nutrition*. When parts have been simply divided and then placed in apposition, fluids are poured out, which, coagulating, glue them together and accomplish their union; and there is just as much need of inflammation to complete this process as there is to produce the various parts of the fœtus. It is not, therefore, necessary, for the cure of solutions of continuity, that any inflammation whatever should exist; and Dr. Macartney has conferred a great boon on society by shewing that, in such instances, the cure is established by a mere physiological process. We know that in numerous cases where a bullet or needle has been lodged in the flesh, it will go from one part of the body to another, causing solutions of continuity more or less extensive, all of which are repaired without any consequent inflammation. We know also that when a simple wound is closed by a clot of blood, it generally heals without inflammatory symptoms. It becomes, therefore, a question in what cases we can imitate this process of nature; and without entering further into theory, I may observe, that many chronic open sores which refuse to heal even when treated according to the most approved principles of surgery, by means calculated to reduce inflammation or promote granulation and cicatrization by bandages, adhesive plaister, ointments, caustic, &c., will often heal with great rapidity, by covering them with the fur of a beaver hat, carded cotton-wool, or any similar substance, and thus permitting the natural exudation to concrete and form an artificial scab. When this is effected, the edges of the ulcer approximate, and the sore cicatrizes. This process, however, proves successful only when you succeed in making the scab adhere as well over the whole surface as at the edges. But even in case it should fail, it will not do any harm, or

prevent you from trying other remedies. The cases in which it is most likely to prove unsuccessful is where there is a copious discharge of ichorous watery fluid, and where much irritation or inflammation exists. Where there is only a copious watery discharge, and no remarkable irritation present, you will often succeed by irritating or scratching the surface of the sore so as to make it bleed. The blood which exudes from the sore concretes readily, and a scab is formed in a very short space of time. By this plan I have repeatedly succeeded in making open sores and old buboes heal which had resisted other means. It is worthy of remark, that an analogous mode of treatment has been found very serviceable in the ulcers and wounds of trees; for the celebrated cement, invented by Dr. Forsyth, and the grafting wax of gardeners, both act on the principle of forming an artificial and intimately adhering scab. In recent wounds, even where considerable injury is inflicted, and where loss of substance has been caused, it is often quite possible to make use of this method; it has been supposed by most, if not by all writers, that bruised and injured parts require suppuration, first for their removal, and secondly for their renewal; but I deny this, and I could appeal to numerous cases where extensive loss of substance was replaced *under a scab* without suppuration, and where bruised parts were removed without suppuration.

The powers of the living tissues and vessels are quite adequate to the deposition of new and the absorption or removal of old matter, without the necessary intervention of suppuration. I have seen a great portion of the fleshy part of the tip of the finger nipped off by the clapping of a door in a steam carriage; I have dressed it with fur of hat; a scab has been formed, and under that scab the bruised parts have been absorbed, and the destroyed parts replaced without the formation of a drop of pus. *As inflammation is a mere accident, not necessarily connected with healing by the first intention, so is suppuration a mere accident, and is not essential to the replacement of loss of substance.*

Since the preceding lecture (which was delivered last year,) was corrected for the press, I have read Dr. Macartney's Treatise on Inflammation, one of the most original and important works that has issued of late years from the press. A perusal of what I have already published in the Medical Gazette in June last, together with the contents of the present lecture, will shew that I have arrived at views in many respects similar to Dr. Macartney. His discovery of the fact that inflammation is not necessary for the healing of wounds by the first intention, was the point from which I set out, and I was soon led by observation to the conclusion that suppuration and granulation are not necessary to, and essentially connected with, the repairs of accidents attended with loss of substance. To this Dr. Macartney's reasonings also tend. When illustrating this question at the Meath Hospital, I related a case of extensively broken knees in a horse of mine, which I succeeded, many years ago, in cicatrizing by scabbing, and without suppuration, to the great surprise of the veterinary surgeons.

ON SOME OF THE DISEASES OF THE PAPILLÆ OF THE CUTIS.

By James Paget, M.R.C.S.
Demonstrator of Morbid Anatomy, and Curator of the Museum, St. Bartholomew's Hospital.

The papillæ of the cutis were discovered by Malpighi*, and first described by him in the same admirable papers which contain the first demonstrations of the true structure of the tongue, and of the chief seat of the colouring matter of the negro's skin. His description of the papillæ of the hand, though rough, is extremely accurate; but he rather assumed from analogy than actually proved their presence on the general surface of the body, where, indeed, they are in the healthy state so small and indistinct, that even since Albinus'† lucid description, many anatomists, as Perrault and Cheselden‡, and, more lately, Gendrin§, have denied their existence.

They may be most distinctly seen on the palms and soles, after removing the thick epidermis by which they are covered, and on whose under surface they are exactly represented *in intaglio*, by the fossæ or sheaths into which they are received. They are arranged in arched and parallel lines, which form varied and somewhat intricate figures; each line being composed of a double row of densely set hair-like and very vascular processes, about half a line long, which stand rather obliquely on the

* Epist. Anat. ad Borellium, De Linguâ, et De externo organo tactûs. Opera omnia, vol. ii. pp. 166 and 203.

† Academic. Annotationum, lib. vi. cap. x. p. 62.

‡ Haller, Elem. Physiologiæ, vol. v. p. 8.

§ Histoire Anatomique des Inflammations, vol. i. p. 401.

surface of the cutis, like the pile of velvet. As one proceeds in the examination from the palm or sole towards the back of the hand or foot, the papillæ are found gradually less prominent, till they degenerate into minute tubercles or granules, which are set as densely as possible, but have no definite arrangement. The same condition prevails in the cutis covering the general surface of the body, which is therefore smooth, or but slightly granulated. In the depressed lines of its wrinkles, which are arranged either in an irregular net-work, or in the directions which will allow it to move in the freest possible manner on the subjacent parts, the cutis is denser and less vascular than elsewhere, and the papillæ are so little developed, that even Albinus * seems to doubt of their existence. But the following observations, though relating chiefly to the increase of size and other alterations to which they are subject, will probably be sufficient at the same time to prove their presence on every part of the cutis†.

The slightest degree of morbid enlargement of the papillæ is that which they present at some distance from chronic ulcers where the skin has a bright red or somewhat livid hue. In this condition, the papillæ on those parts of the body where, during health, they are least evident (as on the legs and thighs), become prominent and distinct. Their form is not altered; they are nearly cylindrical, and so closely set, that their summits form a surface as smooth as that of coarse velvet. In general, very little cuticle is secreted; only a thin pellicle covers the papillæ, and gives a fine polished aspect to the limb; the hairs fall off, and the orifices of their follicles are closed; the wrinkled lines, in which the healthy papillæ are so small, become obliterated, and the whole of the affected cutis presents a smooth, villous, and highly vascular structure, which looks moist, and just like the lining of the cheeks or lips. I imagine that this condition, which, according to Rayer‡, occurs in the squamous and many other diseases of the skin, is but an extreme instance of the common turgescence of erythematous inflammation, in which their vessels becoming unusually distended with blood, the papillæ enlarge and swell without alteration of their form. It is a condition which may constantly be observed near chronic ulcers, though less evidently during life than after the skin has been minutely injected, because the secretion fills up the papillary interstices, and adheres closely among their prominences.

In a more advanced degree the papillæ become larger than they are on any part of the body during health, though still without any alteration from their natural form. In the preparation before me, which contains a portion of the skin from the neighbourhood of a chronic ulcer on the leg of an African, the papillæ are from half a line to a line and a half in length; their forms are between conical and cylindrical; their summits are rounded, and they are highly vascular. They are arranged very densely and irregularly; but from the excessive prominence of the larger of them, the surface appears coarsely granulated. In this case the ulcer was healing, and epidermis was secreted so thickly that it might easily have been separated into four layers, in the inferior of which the papillæ were represented as if the skin had been moulded into soft wax or plaster.

In cases of this kind there is more than a mere turgescence of the papillæ; the change seems to consist of a true but simple hypertrophy; for while their size is so much increased, their form and the characters of their tissue remain unaltered.

But in some other instances they undergo more remarkable changes, for with a great increase of size their summits become expanded; and as they are densely grouped around the margin of an old ulcer, some of them look like tufts of succulent leaflets, from half a line to three lines long, elevated on narrow pedicles, and considerably flattened. Others of the papillæ again, which have been longer diseased, are still larger and more swollen, rugged or filamentous on their surfaces, and collected into roundish, lobulated, and irregular masses, which seem made up of a number of soft and vascular tuber-

* Loc. cit. p. 64.

† Gurlt (Uber die Haut des Menschen und des Haussangthiere, Müller's Archiv, 1835, p. 404) says they are apparently absent on the scalp; but though I have never seen them enlarged there, I should have no doubt of their presence, as well from its minutely granulated surface as from its extremely sensibility.

‡ Treatise on Diseases of the Skin, translated by Dr. Willis, p. 19, &c.

cles densely set on narrow pedicles. Masses of this kind, which may be split up into smaller portions like a cauliflower, form the majority of what are called fungous or warty granulations, which are remarkable for their irritable nature, which are extremely sensitive, and bleed profusely on the slightest injury, and which constantly discharge a large quantity of sanious purulent fluid. During life it is difficult to determine the composition of these growths, because the matter which they secrete accumulates in their interstices, and conceals their form, and because they seem to merge gradually into an exuberant mass of soft vascular granulations, which occupy the centre of the sore. Even after death it is scarcely possible to discern their origin in a diseased condition of the papillæ, except by tracing the gradations in the same limb, from the healthy papillæ on those parts of the surface which are at a distance from the disease, through the successive stages of alteration, first in their size and then in their form and tissue, to this in which all their characters are completely altered.

I find this disease of the papillæ connected with a peculiar and intractable form of ulceration, which occurs not unfrequently upon the shins. It is remarkable for the manner in which it spreads down to the periosteum of the tibia, and even into the bone itself, from whose medullary tissue, a soft, fungous, and irritable mass of vascular granulations arises, and occupies the centre of the sore*.

The papillæ undergo a very similar alteration in chimney-sweeper's cancer, which is the more interesting from the circumstance of that disease having its most usual origin in a *wart*, which probably consists, like the more common species of those growths, in a simple enlargement of the papillæ.

The warts here meant are not those flattened disks of thick cuticle, which are rather of the nature of corns, and which may be separated entire by maceration, leaving the subjacent cutis sound; but those excrescences from the cutis with pointed or granulated surfaces, "much like granulations that are healthy†," which are sensitive and vascular, and which are so common about the hands, and organs of generation. Every one must have observed that when the top of such a wart is cut off, it bleeds from a number of minute points, and not from its whole surface, just as when one removes a thin slice from the ball of a finger, so as to cut off only the summits of the papillæ, as they lie each in its separate sheath of epidermis. Such warts, also, when they have been much irritated, and are about to fall off, split up into a number of pyramidal processes, enveloped in thick epidermal sheaths, which cover them as a glove covers the fingers. These are the enlarged papillæ of the cutis; and they exactly resemble the natural structure on the sole of the foot in the ostrich*, in which the papillæ form long conical processes, with rounded apices inclosed in dense sheaths of epidermis, and blended towards the end of the toe, where the pressure is greatest, into one horny callous mass, like a huge wart. I have seen a warty excrescence, also, in which the papillæ are grown into hair-like processes, like the dermal villi of the whale*. They are more than half an inch long, and the mass has split up into dense tufts of vascular filaments.

In those large and complex masses of warts which are sometimes found about the anus, and the external organs of generation in those who have gonorrhœa, it is not easy at first sight to see that they have the same origin as the more simple kind; but after their removal, and when they have been immersed in alcohol, they may be split up into several portions, each of which will be found to consist of a group of enlarged and expanded papillæ, which are held together by sheaths, and an envelope of fine epidermis.

I suspect that the soot-wart, which forms the first stage of chimney-sweepers' cancer, as well as that warty growth in which cancer of the face and tongue commences, is of the same kind; but as yet I have not had an opportunity of dissecting either of them in their early stage. In some more ad-

* From its thus appearing sometimes to originate in disease of the bone or periosteum, this affection is generally described as a fungoid disease of the periosteum.

† Hunter on the Venereal Disease. Works, vol. ii., p. 352.—See also, Ascherson, in Casper's Wochenschrift, 1832; and Müller's Archiv, 1835; Jahresbericht, p. ccvii.; and Rayer, l. c. 980, &c.

* See Preparations 1902—6 in Phys. Series of Hunterian Museum, and Catalogue, vol. 3, p. 239.

† Eod. loco, 1857 A; and Catalogue, vol. 3, p. 232.

vanced cases of the chimney-sweeper's cancer, Mr. Lawrence* says:—"The affection consists not so much of a state of ulceration as in a warty or rather a fungoid excrescence of the affected part—what we should call a soft vascular kind of wart, which produces the same kind of offensive discharge as the ulcer." This condition very closely resembles that which I have described as the most advanced stage of the enlargement, with change of form in the papillæ, around the irritable and intractable ulcers of the legs. I have found it very marked round the margins of several deeply ulcerated cancerous sores on the scrotum, and around the cancerous ulceration of the wrist, which is described by Sir James Earle, in the third volume of his edition of Pott's Works. This hand (which is still preserved in our Museum†) was removed by Sir James from a gardener who was for some time in the habit of carrying a soot-bag on the corresponding arm, and it may be remembered that the whole course and character of the disease precisely resembled those of the chimney-sweeper's cancer of the scrotum. I find a large portion of the back of the hand and wrist occupied by a foul, ragged, and deep ulcer, around whose uneven border there are a number of elevated growths of various sizes, raised on narrow pedicles, and more or less densely grouped together, which, from their exact resemblance to the others already described, I have no doubt are enlarged and altered papillæ.

It would therefore seem highly probable that in all these cases of cancer of the skin, a single warty growth is first formed by the enlargement of a group of papillæ; and that when it is removed by ulceration, the papillæ around the margin of the ulcer become in their turn enlarged and expanded at their summits, and are successively removed in concentric circles, as the ulceration spreads. I may repeat, that the change from the natural form of the papillæ in the advanced stages of these diseases, is so great, that except after having traced them through their successive degrees of alteration, no one would imagine their origin. But the similarity of their forms in this extreme state of disease, and the very analogous character of the spreading and seemingly incurable ulceration with which they are accompanied, can, I think, leave no doubt of the similar nature of the chimney-sweeper's cancer, the cancer of the skin of the face, the ulceration of the wrist described by Sir J. Earle, and the warty ulcers of the extremities, producing, and often *seeming* as if they depended on, disease of the periosteum and the bone; and I think that the expanded and flattened, or swollen, form of the papillæ around ulcers is peculiar to these which appear at present to be incurable; for as far as I have yet examined them, I have found the papillæ altered in size only around the more simple and curable forms of ulceration of the skin.

There is yet another class of cases, in which a somewhat similar change of structure occurs in the papillæ of the cutis, viz. in nævi. Most of that species of nævus which nosologists call spilus, and which appears to include all those which do not consist of the vascular tissue analogous to the erectile, present some characters which indicate an increased activity of the nutritive processes, in the portion of skin in which they are seated, such as a thickening of the cutis, by which the nævus is somewhat raised above the surrounding parts—a copious secretion of thick and dark epidermis—the growth of tough wiry hair—increased heat and sensibility, &c. Others, again, have a more or less coarsely granulated surface, from enlargement of the papillæ, which are, however, kept down nearly at the level of the skin. But there is a variety of nævus which consists entirely of an enlargement and alteration in form of the papillæ, in which they present some characters strikingly similar to those already described. This form has been well described by Rayer*, by the name of verrucous nævus; and Dr. Thomson gives a figure of it under the judicious title of papillary nævus†. I have seen two cases, but both after the removal of the disease from the body. One of these was removed by Mr. Abernethy, from the lower part of the back of a lady, and is preserved in our Museum. Mr. Lawrence‡, who assisted him in the operation, says that it was congenital,

* Surgical lectures, MEDICAL GAZETTE, vol. vi., p. 197.
† Series 7, No. 6.

* Loc. cit. p. 984.
† Atlas of Cutaneous Diseases.
‡ Lectures on Surgery, MED. GAZ. vol. vi. p. 228.

was entirely confined to the tissue of the cutis, and had during life a bright red appearance. It is about a foot in length, and somewhat less in breadth. The other specimen was presented to the Museum by Mr. Taylor, of Clerkenwell. It was removed from over the sacrum and lower lumbar vertebræ of a woman who had been for some time a maniac. It was congenital, and had produced no inconvenience till, from her constantly lying on her back, it began to ulcerate. It decreased in size for some time before death, in coincidence with extreme general emaciation of the body. It is of about the same size as the other, but of a blackish-brown colour, from the secretion of a large quantity of very dark epidermis.

I was led to the true nature of the morbid change in these cases before reading the works just quoted, by the similarity which existed between the enlarged papillæ in them, and in the cases of malignant ulceration already described. The surface of these nævi is of course sound, and covered by epidermis; but they are composed of a dense assemblage of simple and lobulated growths, from a line to half an inch, and in some cases even more, in length, which are elevated on narrow peduncles. Some have just the appearance of succulent leaflets, being flattened at their expanded summits. Others are knobbed or lobulated, or even slightly branched. They are composed of a dense, firm, homogeneous tissue, like that which is commonly found in hypertrophied skin, as in the lobulated tumors of the nose, some of the enlargements of the scrotum, &c. One artery enters the base of each papilla, and passing up its centre, gives off a branch to each of the lobules. In the last case mentioned, the secretion of epidermis was so excessive, that the interspaces of the enlarged papillæ were filled with scales and detached portions of it.

As might be expected, the villi, or, as they ought to be called, the papillæ, of some parts of the mucous membranes, are subject to similar affections. I have found those of the lining of the cheek remarkably enlarged over a nævus; those of the inside of the lips similarly altered in cancer, and in an exostosis of the upper jaw. Such changes occur also in the tongue and in the granular conjunctiva in purulent ophthalmia; and Mr. Langstaff has a beautiful specimen of warty growth from the conjunctiva palpebrarum of an ox, which I have no doubt is of the same nature.

ON THE SKULL OF AN ANCIENT ROMAN,

AND SOME ANCIENT RELICS.

By R. H. Allnatt, A.M. M.D.

A most interesting discovery has just been made on the line of the Great Western Railway, at Shooter's Hill, in this county, which is a high and insulated portion of ground contiguous to the Berkshire Downs. As the excavators were proceeding with their labours, they lighted successively upon five human skeletons lying along the line of their operations; and as the bones were superficially embedded in the chalk and covered by dry sand, they were in a state of great preservation. These skeletons proved to be the remains of Roman soldiers who fell, in all probability, during the wars with the ancient Britons; for in and about the graves were found the spear heads, spurs, and battle-axes of British and Roman manufacture, urns of *terra cotta*, and a large quantity of coins of various Roman emperors. There was no mound, nor the usual series of small tumuli, to indicate the presence of these subterranean treasures.

I was fortunate in the opportunity of examining the majority of these reliques at my leisure. Two of the skulls are now lying before me, and as one of them presents some peculiarities of structure, and as the skull of a Roman does not occur to our observation every day, perhaps a cursory description of it may not prove unacceptable to your readers.

The bone is still hard and compact, and had undergone but little alteration of structure. Some of the animal matter has, however, disappeared, and its place been supplied by the carbonate of lime from the nidus in which it reposed, for it is adherent to the tongue, and effervesces strongly when acted upon by the mineral acids. The surface had a reticulated appearance, owing to the partial denudation of the external surface by ossiphagous insects.

The following are the dimensions of

the head and face of the more perfect skull; both crania, however, present nearly the same relative admeasurements:—

Dimensions of the Head and Face.

From the external angular processes of the superciliary ridges, 4½ inches.

From the temporal ridges, across the inferior and more contracted portion of the os frontis, 5 inches.

From the temporal ridges, including the superior or more projecting part of the os frontis, 5½ inches.

From the space between the superciliary edges immediately above the ossa nasi, to the tubercle of the occipital bone, 12½ inches.

Lateral measurement of the depth of the skull from the middle of the sagittal suture (the original situation of the fontanelle) to the foramen magnum at the base, 9½ inches.

Across the face, from ridge to ridge of the ossa malæ, 4 inches 7 lines.

Circumference of the whole head, measuring round the occiput and os frontis in the most developed parts, 21 inches.

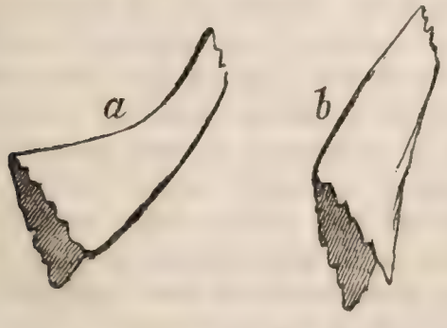
Thus we see that the bones of the head and face are of dimensions exceedingly contracted, at least in comparison with those of a well-formed adult of the present day. Not being a disciple of Gall and Spurzheim, I leave the discovery of the moral habitudes of the owner to the lovers of the *science* of phrenology; but I may be permitted to remark that the ossa nasi of both skulls possess most extraordinary incurvations, which must have had the effect of subjecting the wearers, though Romans, to particularly "pug" noses, and we are all aware of the characters assigned by popular consent to nasal organs of this peculiar conformation.

The great departure from the regular structure, however, remains to be noticed. The existing teeth of the upper jaw (the only ones, unfortunately, preserved) are eleven in number; five of the molares were lost during life, as the sockets, or alveolar processes, are consolidated by ossification. The crowns of the incisors stand prominently from the jaw, and are evidently not worn to any extent by attrition, but instead of presenting the usual wedge-shaped appearance (having the posterior and anterior surface meeting at a sharp angle), they are of an irregular solid oval form, strongly coated with enamel, and in every respect like the natural molares. The fangs are *single*, and of the usual long pyramidical form at their insertion in front of the maxilla. The bicuspides have also lost their identity, and partake of the same peculiarity; so that in fact the whole row presents the unusual appearance, along the entire line, of a set of sturdy and uniform molares.

The grinding surfaces of the teeth and bony palate—natural size.

That these teeth are perfectly natural and in their right situation I am quite convinced, as the fangs are single and the alveoli accurately correspond, and are adapted, to the peculiarities of the roots. I look upon it, moreover, as a purely *accidental* conformation, not presuming that the valiant inhabitants of the Eternal City so far departed from the universal system as to wear their molar teeth in the most conspicuous part of their maxillæ.

The vases I have mentioned above are evidently from the shape and diminutive size not cinerary, but were most probably the customary drinking vessels of the common Roman soldiers. A



a, ossa nasi from the Roman skull.
b, the same bones from a well-formed English skull.

notion prevailed with the ancients that the soul was the shadow of the living man, and that it was endowed, though imperfectly, with the faculties of the material body. Homer called these shadows *αμενηνα καρηνα*, weak bodies. According to Homer and Socrates the dead lived a kind of life resembling a dream, and was supposed to frequent the place where the body lay. Hence it was customary to place provisions near the spot. And Lucian says that ghosts derive their nourishment from libations and funeral sacrifices at tombs. From the prevalence of this superstition arose also the custom of burying provisions and drinking vessels in the graves of the common people.

Vase, or supposed drinking vessel of Terra Cotta, taken from the grave. Diameter $3\frac{1}{2}$ inches; depth 4 inches.

Thus I conceive the fact to be incontestibly proved, from the warlike weapons and other contemporary monuments of ancient art, which were interred with these bones, that they are the remains of Romans, and that these Romans were soldiers, who fell in the sanguinary wars with the Ancient Britons. The whole area of the hill was the scene of savage conflicts; for the graves (several of which contained considerable masses of charcoal) are scattered at the summit in great profusion.

The date of some of these reliques may be assigned to a period anterior, and of others subsequent, to the reigns of the Antonines, when cremation began by an imperial edict to be abolished; and this will account for the circumstance of charcoal existing in some of the graves, and of the entire unconsumed skeletons in others.

I forgot to state that a small copper coin fell from the interior of one of the skulls when raised by the workmen, which was probably the *sestertius* placed in the mouth of the deceased to pay the fare of the infernal ferryman of the river Styx.

Wallingford, Nov. 12th, 1838.

VACCINATION AND SMALL-POX.

To the Editor of the Medical Gazette.

Sir,

As, for some time past, the public attention has been excited by a great numerical increase of cases of small-pox, so I have observed, that through your journal the attention of the profession has been attracted by several writers on this subject, but more especially by the late interesting letters of Mr. Estlin, on a supply of vaccine virus, as obtained by him directly from the cow. It was not my intention to have obtruded my opinions at present, but seeing that an anticipation of them has in some measure taken place in your pages, I may be allowed, although only at the threshold of my experiments, to state the circumstances which led me to investigate the subject. In the months of March, April, and May, of the present year, small-pox prevailed in Ripon to an alarming and fatal extent. In several cases I found that although the child was vaccinated, and the vaccination proved by Bryce's test successfully, small-pox supervened—that not unfrequently, when under the influence of vaccination, the small-pox eruption made its appearance on the child, both diseases running their respective course together, the one not impeding the other—that many presenting upon their arms the genuine cellated scars, the result of early but successful vaccination, were also seized. I then took six persons from between the ages of 25 and 30, all of whom had been vaccinated in infancy; and revaccinating each of them, I found that they all took the disease in its regular form, the vesicles coming to maturity on the eighth day. From a very few cases, however, we ought to take care not too hastily to draw general conclusions. Thus, as opposed to these cases, I may mention that of a lady, who having had small-pox in infancy, permitted herself at the age of 30 to be vaccinated. The result was, that a genuine vaccine vesicle appeared at its height on the eighth day; and from it I vaccinated two children, and in both the operation took effect. Two other ladies of my acquaintance have had a second attack of regular small-pox. But these are the exceptions; a very few persons having what is called (from our ignorance) "a pre-

disposition" to a second attack of small-pox, whilst others cannot under any circumstances take the disease: thus I have inoculated myself over and over again, with variolous matter from the worst cases, without effect. When, however, we find that the result of many cases is in the greater part of them alike, we may then infer that some law exists causing a uniformity in the effects, and that that law may one day be discovered. We find *now* that vaccination does not afford, even to children, the benefits it once did; that in adults a second vaccination takes effect as it did in infancy; and that more originally vaccinated adults now contract the disease of small-pox than did some twenty years ago. Some have supposed that this arose from a wearing out from the system of the vaccine virus, and that a renewal of the vaccination was necessary after a certain number of years. Others, again, imagine that the virus itself has degenerated, and that its prophylactic virtues have been destroyed through so many systems. Both opinions appear to me to be correct in a great degree. No one doubts, for instance, that the matter was good and effective when Jenner, some forty-two years ago, began openly in London his experiments: the preservative effects continued for several years, but a time came, and still comes, when a second vaccination will take full effect; at which time, if the individual be exposed to variolous contagion, and if he be not revaccinated, the chances are that he takes the disease: but even revaccination, now-a-days, is not a certain preventive; the *stock* being bad, as innumerable instances prove, a revaccination with the old matter is too often but of little use. The period of deterioration or degeneration of the virus, will, by subsequent investigations, probably be found to be that very number of years at the expiration of which a renovation of new matter in the human system is called for. This is at present only thrown out as a supposition; formed, however, not without some reflection.

If such a removal of vaccine virus be necessary, it of course would be of high importance to be able, in any part of the world, to obtain a supply at pleasure. In the Arch. Gén. de Méd. for November 1831, Dr. Sunderland is said to have communicated an eruptive disease to a heifer, by clothing it with the coverlid of a variolous patient's bed, and to have successfully used the matter in engendering cow-pox in the human subject.

Before I read this, I had thought that, from the similarity of the diseases in many respects, it was not improbable that small-pox in the human subject might induce in the cow the disease called cow-pox; and this idea was favoured by the fact, that for several years back, when small-pox has been a disease of comparatively rare occurrence, few or no cases of the vaccine disease could be found in the cow. The inoculation of the teat of the cow could readily be accounted for, if we but believe the accounts given of small-pox previous to the discovery of Jenner. Not, however, content with the theory, I have gone on to experiment.

On Friday, the 13th of July, I commenced my experiments on a calf of a fortnight old. Having obtained matter from a boy of nine years of age, when the variolous eruption was at its height (ninth day), I carefully inoculated the calf on and around the teats. On Saturday, the 14th July, I took the same matter as used in the former experiment; and having made three cruciform incisions on the udder and teats of a milk cow, inserted well the matter. The incisions on the second day were puckered, and incrusted with a little dried blood, but in neither case was I able to discover any eruption; all symptoms of irritation died, and the scabs falling off left merely small smooth cicatrices. As yet I have not been more successful, although I have used both variolous matter and the vaccine.

I have openly communicated to many my opinions, expressing a desire that all who felt inclined would prosecute the subject, either to prove them correct, or disprove them by experiment. When at Newcastle, in September last, I mentioned my experiments to Mr. Fife, and it was from observing that another gentleman of that city had, through your pages, communicated somewhat similar views, that I have, at this early period of my experiments, offered to your readers these crude remarks.

I am, sir,
Your obedient servant,
JAMES INGLIS, M.D.

Ripon, Yorkshire,
Nov. 12, 1838.

ON SCURVY.

EXTRACT FROM THE

REPORT OF DR. MURRAY,

Principal Medical Officer at the Cape of Good Hope.

HAVING given the substance of the reports of the medical officers stationed on the Eastern frontier, respecting the scorbutic affection which prevailed there, detailing its symptoms and causes, with the means employed for its prevention and cure*, I shall next give some reports on this disease which I have received from medical officers and practitioners at Cape Town.

Report of Surgeon Mostyn, 27th Regiment.

Cape Town, June 1837.

The 27th regiment embarked in the troop ship Romney, at Cork, for the Cape, in May 1835, and arrived at Simon's Bay on the 20th August, and at Port Elizabeth on the 2d of September, from whence it marched to Graham's Town.

On the 25th October, the head-quarters of the regiment, with the flank companies, left the frontier for Cape Town; the other four companies remained until the end of March 1837, when they left, and arrived here on the 13th April.

During our passage from England the regiment was remarkably healthy, and no case of scurvy occurred, neither did the disease appear in it while I was on the frontier (up to the period of head-quarters leaving); but I understand that three or four cases occurred afterwards in the four companies that remained there, and that one man died of it in the hospital of the Cape Mounted Rifles, at Fort Beaufort. Up to the present period, I have only admitted one case of a scorbutic nature among the men of the regiment stationed at Cape Town, and the following is an outline of its history and treatment:—

Private Arthur Loughran, 27th regiment, age thirty-four years, admitted on the 3d April, 1837, from Robbin Island, where he had been on detachment for twenty-eight days, living in a tent, and had good bedding, with diet of fresh meat, bread, salt, coffee, and sugar, but no wine, spirits, or vegetables. The days were warm at the time, but the nights were cold. His character is that of an habitual drunkard, and he had previously been often a prisoner in the cells, and frequently in hospital, in consequence of diseases brought on by constant drunkenness, such as diarrhœa, dyspepsia, &c.

His symptoms on admission at this time were pain in both legs, livid discoloration of the left knee, sponginess of the gums, fœtid breath, and extreme prostration of strength, with a rapid and feeble pulse. His breathing was free; urine turbid; bowels regular. He said he had been ill for six days before admission, and that at first he thought he had only got a severe cold; but being found unfit for duty, and his complaint increasing, he was sent to the hospital. He got an emetic in the first instance, and afterwards a brisk purgative of calomel, followed by an infusion of senna and salts, which produced several fœtid evacuations. His knee was frequently bathed with warm sea water, and he was ordered spoon-diet and vegetables.

On the 13th, two ounces of senna infusion, with two drachms of Epsom salts, were prescribed to be taken every morning fasting; also, one lemon daily.

On the 15th, the knee was found to be much swollen; tongue foul; gums and breath improved; bowels free.

Continue same treatment.

On the 17th, the application of warm sea water to the knee was discontinued, and warm vinegar and water substituted; and by the 20th a considerable amendment had taken place both in the local and constitutional symptoms, and his appetite was much improved. The purgative infusion was continued daily, and he was now ordered two gills of wine and low diet, as well as an additional supply of vegetables.

By the 24th the knee had resumed its natural size, and the integuments their natural colour. His gums had got perfectly well, and his appetite was good. His diet was now further increased, and he was marked convalescent.

Some cases of the same disease came under my observation, treated in the

* For the Reports alluded to, see our vols. for 1837-8.

98th hospital; and I had reason to believe that the same antiphlogistic plan there adopted had certainly a decided advantage over the tonic and stimulating treatment employed by some practitioners.

Note.—The first decided trial made of the antiphlogistic mode of practice in scurvy at the Cape, was in the 98th hospital; and the marked success which attended it convinced Mr. Armstrong, and others who had before witnessed the effects of a tonic and stimulant plan, or of a vacillating, partial, and mixed one, that the disease did not depend simply on general and local debility, but on a cachectic or depraved condition of the constitution, which required alteratives and correctives for its successful treatment — remedies of a very different nature from tonics and stimulants. The report of Assistant-Surgeon Armstrong, 98th regiment, has already been published.—J. M.

Report by Surgeon King, of the East India free-trading ship "Coromandel."

Cape Town, 1837.

On the 3d January, 1835, thirty invalid soldiers, and five others in health, of his Majesty's service, were received on board the East India trading ship "Coromandel," of 650 tons (Captain Boyes), at Calcutta for England. Two of the former died at an early period of the voyage, one from chronic dysentery, the other from obesity. The remaining 28 invalids were men who had served from twelve to twenty years in India, after being in the Peninsula. They were generally of irregular habits, much given to ardent spirits, and frequent inmates of the hospitals. Several of them had been in hospital for nearly four years immediately preceding their embarkation.

Their diseases were chiefly sequelæ of jungle fever, hepatitis (acute and chronic), dysentery, pneumonia, syphilis (one had a syphilitico-cancerous sore on the penis), and one was a case of mania. Their diet on board ship, as stipulated for by the government, besides biscuit, tea, cocoa, and sugar, consisted principally of salt-beef, 1 lb. 3 oz. three times, and 1 lb. salt-pork and pea-soup twice a week; once soup and bouilli (preserved), and once bread and cheese, with suet pudding. The soup and bouilli was the only fresh animal food stipulated for. They had also one gill of vinegar each per week, and mustard, &c. for condiments.

The medical comforts consisted of 60 pints best lime juice, 17 dozen of sherry, and 8 dozen port wine; several dozens preserved gravy-soup, and about 160 pounds of sago: also warm clothing, as quilts, flannels, blankets, &c. to be served out to them when necessary.

On the 23d March, when the ship reached St. Helena, scurvy had not made its appearance on board. The troops were there supplied with cresses, cabbages, and other fresh vegetables in abundance; and the ship remained only twenty-four hours. A few days after leaving the island a case of scorbutus occurred, and the disease continued in a subdued state while in the warmer latitudes. The ship was becalmed seventeen days between the Line and the latitude of Sierra Leone, during which time several men became slightly affected. The heat there was excessive, being 85° Fah. in the cuddy. The atmosphere was close and muggy, and every one on board suffered from it, but particularly the invalids. Every attention was paid to keep the berth ventilated, and the men on deck in the open air. By the time we reached the higher trade latitudes, the disease was gaining strength daily, and began to commit desperate ravages amongst those who had suffered much from disease, and had been mercurialized in India; and before the ship arrived in England (on 23d May), all the troops but one were more or less affected with scurvy; and the seamen also shewed commencing symptoms of it; but none of the cabin passengers or officers of the ship became affected.

The earliest symptoms usually observed were:—The gums thickened, soft, and easily made to bleed; a small pulicose eruption on the lower extremities; and about the same time the muscles of the thigh or leg became stiff, hard, painful, and a little tumid; and after a day or two the skin became yellow over the pained part. The discoloration soon assumed a purple hue, and when in the situation of old sores, they opened afresh. The tongue was white and the breath fœtid. The stools were generally pale; the urine scanty, with a whitish sediment. Occasionally there existed considerable lassitude, and the

countenance was sallow. As the disease went on, all these symptoms became aggravated; the gums bled even from the pressure of the lips, and the teeth became so loose as to be lifted out of the sockets by the finger and thumb. The discoloration of skin was now very dark, the lassitude excessive, and the patient unable for exertion. The pulse was often 140, and thready, and some hours before death imperceptible. The eruption and discoloration of the skin usually faded along with the sinking of the pulse. In some the appetite appeared to be good, in others bad; and they grumbled at fresh medical comforts. In this state I have known some of the men walk across their berth, get shaved, return to their hammocks, and be dead within fifteen minutes. They generally died suddenly. Diarrhœa generally set in twenty-four to forty-eight hours before death.

In many of the most severe cases the onset was not remarked, from the men skulking and keeping out of sight, through fear of having their allowance of grog stopped; but the first symptoms of the disease were, general lassitude and pain of the limbs, with tenderness of the gums.

Between the end of March and 27th May (when the the troops were landed at Gravesend) five deaths happened from the disease—one at sea, three after making the land, and one about fifteen minutes after he was put on shore, and after drinking half-a-pint of gin.

The treatment consisted of fresh diet, viz. preserved soup, rice, sago, mutton, &c. Lime juice was freely given, and sherry or port wine (6 to 12 oz. daily), with a table-spoonful of yeast several times a day. I have seen beneficial effects, though of short duration, from the use of vinegar; the apparent improvement was considerable, the pulse becoming stronger, and the anxious expression of the features going off. Several were allowed beer, or brown stout, but their only effect perhaps was that of sustaining life a few days longer, without mitigating the disease. Sixty pints of lime juice of the best quality were expended, and served out in proportion to the exigencies of the several cases.

In patients whose constitutions were shattered by previous disease or long residence in India, these means had the effect of staying the scourge, but did not completely eradicate it from, or prevent its baneful influence on the system. In them the time required for *an imperfect* cure averaged about 23 days, and the disease generally recurred after they returned to the usual ship diet.

The men were allowed plenty of fresh water, their berth was often scrubbed, and kept as well ventilated as possible, and they were obliged to keep on deck during the day; and some of them, in fine weather, slept there during the night. Diarrhœa was curbed by opiates, taken by the mouth, or given in enemata; but its recurrence a second or third time usually hurried the term of existence.

One of the men who was severely affected with scurvy was upwards of 50 years of age, and, during the existence of the disease in his own person, he was seized with an epileptic fit for the first time in his life. He was bled, and afterwards given vinegar to drink (wine-glass fulls repeated many times a day, a remedy I have known to prevent and shorten hysterio-epileptic fits in females after bleeding has been premised), and he recovered.

Morbid appearances.—I have little to state in regard to the pathological condition of the organs. In one case, the external appearances were very trifling, only a few points of pulicose eruption on the legs, and the gums shewing a thin edge of sponginess; but the internal condition was far more serious than in any of the other cases. This man had lost vision from venereal ophthalmia, and had been affected for several years with "chronic cough." When this patient first made application to me (he skulked for several days, that his messmate might have his grog) he was unable to stand for a few minutes, and would have fainted if kept upright, and so rapid was the crisis that he died the third day, on being lowered from his hammock. On inspection, the right ventricle of the heart was found ruptured near the apex, and several ounces of blood and serum were effused into the pericardium. This ventricle was paler than usual in several places, and the left one was only of about half the usual thickness. The heart altogether was of an unusually small size. The right lung was much destroyed from tubercular abscesses, and the surface emphysematous, the air-cells being distended into considerable sized bladders.

A small portion of osseous substance was found in the substance of the lung near one of the abscesses, at its root. The appearances in the mucous membrane of the intestines I cannot speak of now with certainty, but several cases shewed ulceration in the colon, and other marks of irritation. The liver had also large cicatrices formed of a caseous appearance, and in one man the pelvis of one kidney was almost completely destroyed; these last, however, were marks of former disease.

Remarks.—The quantity of salt provisions allowed is evidently too great; the men are unable to eat it at one meal, and usually keep part for supper the same day, and for breakfast next morning; a larger proportion of fresh provisions is necessary for invalids. It is necessary that invalid soldiers keep on deck during the day, and sleep on deck when the weather and their state of health will permit, as crowding below is very injurious to their health.

With respect to the cause of the disease in the case of the man who had the sore of the penis, and who was seized with scurvy, there could not exist a suspicion of salt provisions having given rise to it, as he did not eat salt provisions of any kind while on board, and I ascribe its origin in him to his confining himself to the berth, from whence I could only get him once on deck. Before the scurvy became general among his companions, his sores looked remarkably healthy, the swelling and irritation of the surrounding parts were greatly diminished as well as the pain, and he said he felt much better in every way than he had done for many months before he embarked. The cause therefore seemed to be *an impure atmosphere*, arising from the fœtid breath and effluvia of many scorbutic men, and which could not be obviated in consequence of the inclemency of the weather, which was wet and cold. He died with all the symptoms of active scurvy; but I cannot pretend to say if the exhalations from the breath, &c. of a scorbutic patient be capable of producing the disease *specifically*, after the manner of an infectious complaint.

The only man among the soldiers who escaped the disease at this time was a maniac, who called himself the King of Hanover, and he never got the slightest symptom of it. This man was almost constantly on deck, and always slept on deck under the spars. He only went below *sometimes* to eat his victuals. He took much exercise, kept walking about greater part of the day, and never had a dose of medicine the whole voyage.

In 1835-36, when on a second voyage to India, on the outward bound passage one of the men belonging to the ship's band of musicians became affected with scurvy. He suffered from it for the first time in 1828-29, for several months on board an East Indiaman, and in every voyage he afterwards made, he suffered from the disease soon after passing the Cape. In January, 1836, about forty-two days after leaving Table Bay, (where the ship remained six days), it made its appearance in him, in the rectus femoris muscle, which felt hard and stiff, and the skin immediately over the part became yellow: the yellowness extended up the thigh, and round towards the hip; most of the other usual symptoms were present also, but his appetite was good, and he did not feel languid. The treatment principally consisted in a diet of rice or sago, occasionally mutton soup with a small portion of fresh mutton, a quart of cider daily in divided doses and at intervals of four hours, with a table spoonful of yeast to each dose. The discoloured part was fomented with warm salt water, and a stimulating embrocation applied. In seventeen days all appearances of scurvy had disappeared.

When the symptoms first came on, we had been out forty-two days from Table Bay, and had experienced a hurricane, and eight days of very close muggy unhealthy weather. On two previous occasions that he was attacked under my care, the same treatment above described was adopted, with the exception of lime juice having been used instead of cider; and recovery at each respective attack was not complete before the 23d and 30th day. On the homeward passage to England in 1836, the scurvy again made its appearance in him, and also in one of the other seamen, three months after leaving Calcutta, on the 12th July, in lat. South, 30° 9′, East long. 13° 59′; we had one month of almost perfect calm in the Bay of Bengal, and from the time we passed Ceylon, heavy gales in succession, until we reached the Cape, about the 17th July. There was much rain and sea

water shipped, and the men were often wet for many hours together, and their bedding also frequently drenched. In this attack the teeth of the man of the band before-mentioned became loose; his gums were very spongy, and bled from the motion of the lips; the pulicose eruption came out on the legs,and discoloration of the skin appeared, with hardness and stiffness of the muscles. The seaman had lumbago in addition to the scorbutic symptoms. The diet in the one case was as above stated, in the other it was not materially altered from the usual diet of the ship's company; and as medicine they had a mixture made of gr. x. Potass. Oxymur. ʒiss. to ʒij. acid. muriat. to a pint of water. The acid was first diluted with an equal portion of distilled water, and poured on the chloride of potass in a bottle, letting it remain until the disengagement of gas had nearly ceased. A pint of water was then added, and of this mixture they each took a small wineglassful (ʒiss. to ʒij.) every four hours. When properly made, the water ought to absorb the whole of the gas, (*one* part of water absorbs *three* of chlorine gas) and I consider the gas to be specifically necessary*. They were also ordered to gargle their mouths with this mixture, and the gums ceased to bleed after one or two applications; and the perfect cure of the disease was also uncommonly rapid, for no appearance of it remained after the eighth day from the time they began to take the mixture, and these men did not require to apply again during the passage. The only additional medicine prescribed was a purgative of calomel and compound ext. of colocynth.

Several other seamen who shewed incipient symptoms of the disease before the end of the voyage, took of this mixture with like beneficial results. We arrived at St. Helena on the 23d June, and England on the 5th of September.

From the unprecedentedly quick recovery of these two men, and the preventive and curative effects of this remedy on others, I shall be anxious to try it again if occasion offers, and one object will be to ascertain whether scurvy is curable by it during the continuance of men on the ordinary ship's rations.

The two men above mentioned, before they left the ship, requested to have the prescription, declaring that they never experienced such speedy relief from any other medicine.

[To be continued.]

* I find that the chlorine gas is not disengaged from the potass if much (indeed if any) water be added to the muriatic acid, when it is poured upon the oxymuriate of potas.; and if the efficacy of the mixture depends upon the quantity of gas absorbed by the water, I think it would be better to pass the gas through the water by means of a curved tube, as it becomes evolved. The mixture, as here proposed, is rather too strong for use, (at least with ij. dr. of acid), and would be improved by an additional quantity of water, and some honey, sugar, or liquorice.

MEDICAL SCHOOL OF BONN.

To the Editor of the Medical Gazette.

Sir,

A short account of the medical school of Bonn, the newest and one of the most flourishing of the German universities, may not be without interest to some of your readers.

Bonn is situated on the Rhine, about 18 miles above Cöln, in a pleasant country, and one of great interest to the geologist. The university buildings here are spacious,and none of the lectures are delivered in the private houses of the professors, as in some other universities. Besides lecture rooms, &c. they contain the medical, surgical, and obstetrical cliniques. The medical clinique consists of two wards, one room, very large and handsome, for females, containing about twelve, and one for men, with about eight beds. It is under the superintendence of Dr. Nassé, who has acquired considerable reputation in cases of insanity, is a man of extensive knowledge, and intimately acquainted with English medical literature. When a patient is admitted, the case is immediately handed over to one of the students, who undertakes its treatment. He has to make out in Latin the history of the case, detail the symptoms, give a diagnosis and a prognosis, and propose a method of treatment. All this he does with a minuteness of detail quite unknown in England, and reads it aloud to the physician for his criticism, and continues to write a daily report, so long as the case is in the house. This has undoubtedly the effect of making the pupil examine the case very minutely, and obliges him to read books on the disease in question. The treatment is, however, mainly that of the physician, whose

"suadeo" is always expected to be followed. The minuteness in detailing symptoms which is thus encouraged, and the length of time devoted to a particular case, can, it must be confessed, be of much advantage only to the beginner, and is apt to degenerate into what would be called trifling in England. But I believe that this may be considered as a fair average account of a German clinique. Attached to the clinique, is, what is termed the policlinique—an admirable arrangement, which enables the students to visit in the town those cases which are not admitted into the hospital.

There is one doctrine very prevalent in Germany, namely, that which attributes a great many diseases to suppressed secretions, especially of the perspiration of the feet. Patients are invariably questioned on this subject. I remember the case of an old man labouring under violent, apparently functional disease of the stomach. Some one discovered that he had formerly been subject to feetsweats, which had latterly ceased, and accordingly his feet were subjected to stimulant frictions, in hopes of restoring the secretion, and thus, as a matter of course curing the disease.

In cases of fever, saline treatment, with the use of acids, seems to be the common one, and mercury to be little in use. I saw a case of malignant scarlatina in an advanced state. Any remedies would probably have been ineffectual: but nothing was ordered but an acid draught, and sponging the body. The physician recommended those of the pupils who saw this case, to take a small quantity of belladonna every day for some time, as a precautionary measure against infection, though he did not profess to have implicit confidence in the success of the measure.

One case of intermittent fever, where the fever was nearly subdued under the use of arsenic, but a permanent enlargement of the spleen remained, was much benefited by a free incision being made in the region of that organ, which was kept open for some weeks by a stimulant ointment.

The surgical clinique of Dr. Wutzer is said to be very well conducted. A recent operation in a case of opacity of the cornea, where a portion of the cornea from the eye of a sheep was inserted in the place of the opaque one removed, was followed by violent inflammation, and failed. I am sorry that I was unable to obtain any very accurate details of the case.

Not least well managed is the obstetrical clinique of Dr. Killian, the author of a very good book on Midwifery. But of this I had not occasion to see any thing.

At the distance of 6 miles from Bonn, is the very extensive and well-conducted Lunatic Asylum of Liegburg, situated on a commanding height. There are about 200 patients, who are arranged in three classes, according to the violence of the case. Here, as elsewhere, the doctrine of suppressed secretions was prevalent, and I was told that next to mental these were the most frequent causes of madness.

Among the lecturers on the different branches of medicine, who are very numerous, perhaps one of the first is Dr. Naumann. It is usually the custom in Germany, to appoint a person professor only in a particular faculty, and not to tie him down to a particular subject. The general effect of this is probably good, as it enables him in most cases to choose for his lectures the subject most congenial to his taste. I may here remark that I believe there is a very general want in Germany of something corresponding to our English hospital practice: the cliniques, *i. e.* clinical ward in all the universities, not excepting Berlin, being small and crowded with pupils, though often admirably conducted, affording no equal advantage; the consequence is, that young physicians feeling this, when they have time and money, resort to the larger hospitals of Vienna, and some times to the clinique of Professor Krukenberg, at Halle, which last is looked on as the first in Germany. And this leads me to remark, what is I believe not generally known in England, that the degree of M.D. commonly easily acquired, does not entitle you, at all events in Prussia, to practise, until you have been examined by a superior board appointed for the purpose.

Bonn is well provided with lecturers on Natural History. The Zoological lectures of professor Goldfuss (whose work on the Petrifactenkunde is so well known) are very good: Travinarus the botanist, Noeggerath the mineralogist, and some others, have also obtained some name in their respective sciences.

The museums in a university of so recent an origin are necessarily not very complete. Yet the collection of zoology is very good, and that of minerals and rocks illustrates well the structure of the volcanic district in the neighbourhood. The anatomical museum is a spacious building, recently erected, and contains a well arranged collection of specimens chiefly of morbid anatomy, which is daily increasing. The beautiful botanical garden laid out according to the natural system, must not be forgotten.

The students of Bonn, about 700 in number, rank on the same scale as those of Göttingen, and, as a mass, are probably more gentlemanly than in most German universities. They appear to read but little, and the great object in the lecture-room is to take as full notes as possible of the words of the professor.

Bonn offers many advantages to those who wish to study the German language, and at the same time see something of German medical practice. It is not so cheap, and German is not spoken with such purity as at Göttingen; but it is more accessible, and a pleasanter place of residence.—I am, sir,

Your obedient servant,

J. M.

Berlin, Nov. 8, 1838.

UNION OF TWINS.

To the Editor of the Medical Gazette.

Sir,

If you think the following case worthy a place in your valuable journal, as it may be interesting to some of your readers, you will perhaps insert it.

Yours, &c.

Wm. Eagles Johnson,
Student of Guy's Hospital.

Borough,
Nov. 21, 1838.

On Thursday, the 15th instant, I was called to attend a woman in miscarriage. I was not there many minutes before I felt the heads of two children forcing their way down the vagina; in a short time they were born. I found, on examination, that they were male and female, joined to each other (the left side of the female to the right side of the male,) from about the third rib above to about the anterior superior spinous process of the os ilium below. They appeared to be between the fourth and fifth month of uterine gestation, perfectly formed in all their parts. One placenta supplied both children with nourishment, having one cord, common to both, attached to the lower extremity of the bond of union.

The woman accounted for this remarkable production, from the fact of having seen a similar phenomenon some time previously, and more recently a lithographed representation of the same.

EXTENSIVE DESQUAMATION.

To the Editor of the Medical Gazette.

Sir,

The morbid preparation of the cuticular glove, which is illustrative of the case I now present to the readers of the Medical Gazette, was in the possession of my father, Dr. Hutchinson. Whilst in the country last summer I obtained the following account of the case, together with a specimen of the whole and entire cuticle of the hand which came from the patient; and I now present it to the public, hoping that it may not prove uninteresting either in a medical or physiological view.

Mr. William Wright, of Saham Tong, in the county of Norfolk, attorney-at-law, about 50 years of age, rather of a weak and lax constitution from his youth, was seized with the following singular kind of fever. The medical gentlemen he at different times consulted were at a loss to know what name or character to distinguish it by. It has returned many times since, sometimes twice in a year, attended with the same symptoms and circumstances; but not to so great a degree since the year 1764 as before. It has been generally observed to come on after obstructed perspiration. Besides the common febrile symptoms upon the invasion of this disease, his skin itched universally, and more especially at the joints; and the itching wss succeeded by a number of little red spots, with a slight degree of swelling. Soon after this his fingers became very stiff, hard, and painful at their ends, and at the roots of his nails. In twenty-four hours, or thereabouts, the cuticle began to separate from the cutis, and in ten or twelve days this separation was general from head to foot, when he has many times turned the cuticle off from the wrists to the fingers'

ends completely, like gloves; and in the same manner also to the ends of the toes; after which his nails shoot gradually from their roots, at first attended with exquisite pain, which abates as the separation of the cuticle advances, and the nails are generally thrown off by new ones in about six months. The cuticle rose in the palms of his hands and the soles of his feet like blisters, but contained no fluid under them; and when it came off, left the subjacent skin very sensible for a few days.

Sometimes upon catching cold before he has been quite free from feverish symptoms, he has had a second separation of the cuticle, but then so thin as to appear only like scurf; thus demonstrating the quick renewal of this part.

This gentleman was attended by Mr. Swallow, an eminent surgeon at Wotton, who has now one of those gloves in his possession.—I am, sir,

Your obedient servant,

THEODOSIUS CAYLEY HUTCHINSON.

October 17, 1838.

[We delayed inserting this with the intention of giving an engraving of the "glove." The artist, however, has found it impossible to give any satisfactory representation of it.—ED. GAZ.]

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Urinary Diseases and their Treatment. By ROBERT WILLIS, M.D. Licentiate of the Royal College of Physicians, Physician to the Royal Infirmary for Children, &c. &c.

WE have perused this work with the gratification which attends the consciousness of acquiring information; and have only been prevented by press of other matter from bringing it sooner under the notice of our readers.

Between the medical history of urinary diseases, by Dr. Prout, and their surgical history, by Sir Benjamin Brodie, we scarcely thought that there was room for a work of so much interest as the one before us. Dr. Willis has contrived to give a very comprehensive view of the functional derangements of the urinary organs, and an account of the most formidable and important consequences to which they give rise—namely, calculus.

The work opens with a very interesting introduction on the physiology of the kidney, in which its instrumentality in purging the sytem of nitrogen is fully set forth. The food of animals, it is remarked, passes through the action of the lungs and kidneys into carbonic acid and urea, and the very interesting experiments of M. Chepat are adduced in illustration. According to his observations, each ounce of farinaceous food regularly afforded 9·9 grains of solid urinous excrement, each ounce of albuminous food 13·6 grains, and each ounce of albuminous food 17·3 grains, from which it appears that the quantity of azote in our food is a chief element in determining the amount of solid excrement in the urine; not less than ten-elevenths of all the azote introduced as food being thrown off by the kidneys.

It is now a well-known fact, for which we were in the first instance indebted to MM. Prevost and Dumas, that urea exists in the blood, and it is conjectured, from the composition of the deposits which take place in the joints of gouty persons, that uric acid may likewise do so. But Dr. Willis is anxious to guard against carrying the idea too far, of glands acting simply as mere organs of separation. The effect of injuries of the brain and spinal cord on the urinary secretion, shews clearly the agency of the nervous system in enabling the kidneys to eliminate their peculiar products. The average density of the urine has been variously estimated. Prout makes it 1·010 to 1·015; Willis thinks 1·015 a fair average, or, including children, 1·012. The greatest density the latter ever saw was 1·033. A succinct and clear digest follows, of all that is known regarding the chemical composition of the urine; to which, of course, we can do no more than refer.

Proceeding to the diseases, we find them divided into—1, Those which consist of functional derangements of the kidneys, and their immediate consequences; and 2, Those which depend upon functional derangements of the organs which excrete the urine.

In the first of these divisions we find several chapters devoted to various diseased conditions, and these we shall briefly notice *seriatim*.

Chap. I. relates to morbid states in which the secreting faculty of the kidneys is exalted, and the menstruum and readily soluble principles of healthy urine occur in altered absolute or relative proportions.

The first section of this chapter describes, under the name of Hydruria, those cases in which the discharge of urine is characterized by a deficiency of solid matter.

Considering the kidneys as one of the means by which superabundant fluids are discharged, we find their secretion generally increased in proportion to the quantity taken into the system. Here the kidney is acted upon by the supplies from without; but in other cases the kidney takes the lead, and the system follows, demanding supplies to furnish these glands with materials to act upon. Some interesting details are here given by Dr. Willis, which we subjoin:—

"Sometimes, however, we meet with instances of diuresis in which an increased disposition to secrete on the part of the kidney has the lead, as it were, in the phenomenon—in which the kidney is not at work to drain the system, but the system is at work to supply the kidney. This state of things was observed and remarked upon very long ago, and it is to be found described in books under several names, such as *Diuresis*, *Diabetes insipidus*, *Polyuresis*, and *Polydipsia*, from the thirst that attends it, &c. Among the many remarkable histories of this malady which I have met with in the course of my reading, is that of a small artizan, aged fifty-five, who came into the Hôtel-Dieu of Paris to be treated for a bruise of his knee, from which he speedily recovered. The uncommon thirst of this man, and the incessant calls he had to make water, attracted attention, and it was found that from the age of five years he had had a constant thirst upon him, and been affected with a diuresis commensurate with his thirst. From the age of sixteen he had not drunk less on an average than two bucketfuls of water daily. During the ten days he remained in the Hôtel-Dieu, he consumed on an average thirty-three pounds of water every day, often swallowing two litres (above two quarts) at a draught; his solid food was about one pound and three-quarters, and he seems also to have had a little wine. His evacuations daily were about thirty-four pounds of urine, and, at the most, one pound of fæces. Yet this man looked and seemed well; he possessed the ordinary strength of a little man of fifty-five; he was the father of several children, and suffered no inconvenience save from the necessity of drinking, and voiding his urine so frequently. The urine scarcely exceeded pure water in specific gravity. Reduced by evaporation and having yeast added, it gave no sign of fermentation. The urine was certainly quite healthy, only very much diluted. Several interesting cases of the same kind were collected by Dr. S. F. Simmons. A woman, aged 40, and the mother of many children, had suffered from continual thirst and the discharge of a profusion of fetid urine since the time she was a child. Compelled to quit her father's house on account of the quarrelling to which her large consumption of water gave rise, she came to Paris and entered into service. Here the increased quantity of water that was used in the family attracted attention, and it was found that the servant girl was in the habit of drinking two or three pailfuls of the pure element every day. A shoemaker having paid his addresses to her, she contrived to conceal her infirmity from him till after the marriage, when of course he discovered the real worth of his bargain, and found that all his earnings were not sufficient, in the depth of winter, to buy his wife water, so that he had to collect and melt snow and ice from the house-tops for her use. This woman enjoyed very good general health. Dr. Desgranges has given several cases of the same kind. One man at the age of thirty-two had been affected with diuresis and thirst from the age of four years, and had at one time been in the habit of drinking eighteen bottles of water daily. Another young man, until he had a pleurisy at the age of eighteen or nineteen, had been the subject of a similar infirmity; but a blister applied to the chest for the inflammation having continued to suppurate for the space of twenty-five days, he had found himself cured of his extraordinary thirst and diuresis. The same writer quotes a case from an American journal, in which a young man aged twenty, stout, active, and in the enjoyment of good health, was in the habit of consuming six gallons, or forty-eight pints, of water, and passing a

commensurate quantity of urine every day."

In hysteria the occurrence of large quantities of urine is known to all. Dr. Willis thinks the secretion is but little altered, as to the quantity or relative proportion of its ingredients, though the watery menstruum is very much increased. He has thought the chloride of sodium, perhaps, more abundant than in perfectly healthy urine. The diuresis which the more advanced in life sometimes labour under, seems to be essentially the same in character.

In the treatment of this form of disease, or hydruresis, the diet must be particularly attended to, especially as regards restricting the quantity of fluid as much as possible. While the demand upon the kidney is thus diminished, the action of the skin must be augmented as much as possible by warm baths and the diligent use of the flesh-brush; the bowels to be regulated by mild purgatives, avoiding mercury. Hyoscyamus and opium are also of use, as are tonics, particularly the bitters, and iron.

This brings us to the anazoturia, wherein we have a deficiency of urea; not a merely relative, but an absolute deficiency. Under this head, in Dr. Willis's opinion, come almost all the cases which have been cured under the name of diabetes. The usual characters are as follow:—

The urine is abundant, limpid, straw-coloured or colourless, and with a very slight faint smell. At first it is neutral or slightly acid, but soon becomes ammoniacal, with a "fine creamy" pellicle, consisting of the ammoniaco-magnesian phosphate. According to our author, this form of disease is not unfrequent among the children of the poor.

"I have at this moment," says he, "three children under my care at the Royal Infirmary for Children, affected with urinary diseases, two of whom present the form of malady to which I have ventured to apply the title of *anazoturia*. The one of these children is a boy three years and a half old, and has been weakly from his birth. His extremities are emaciated, but he has a large, soft, protuberant belly. He is spiritless, and disinclined to move and play about. His appetite is voracious, and his thirst incessant. The poor little fellow will drink nearly a pint of water at a time if allowed, and is not satisfied with less than about four pints in the course of the day and night. He makes water in considerably greater quantity; which was to have been expected; for he has a constant craving for food, and cries until he is indulged with every thing he sees—meat, bread, potatoes, cabbage, and raw lettuce. The bowels are constipated, and the feces present pieces of undigested aliment, particularly potatoe, carrot, &c. The urine first brought to me by the mother was so free from every one of the sensible properties of urine, that I insisted it must be the rinsings of the bottle, returned into it by mistake; but I soon satisfied myself that I had the veritable urine of the child, by getting him to make water before me. This urine did not differ in appearance from common water; it was quite limpid, absolutely colourless, all but free from odour, and neutral when passed. It became in the slightest degree opalescent or milky after standing ten or twelve hours. In specific gravity it corresponded as nearly as possible with distilled water; at first I even thought it lighter, but this was from trying it with a new hydrometer, the scale of which I immediately discovered to be set about a degree too low. Brought to the boiling point it let fall no precipitate, a few bubbles of air (probably carbonic acid gas) being disengaged. No effect followed the addition of a solution of oxalic acid. Caustic potash caused the subsidence of a few flocculi; 1000 grains evaporated slowly left but a fraction of a grain of residue, which appeared to consist entirely of mucus, lithate of ammonia, and the phosphatic salts; but it must also have contained a small quantity of urea and colouring matter; for the urine kept two days in a temperature of about 65° Fahrenheit, became very faintly ammoniacal. The quantity of residue I had to deal with was too small to enable me to speak with greater detail."

Numerous cases which have been recorded in various publications, are referred by Dr. Willis to this head; among others, he particularly alludes to the papers of Mr. Macgregor and Mr. Snowden, in this journal, and also to the valuable observations of Dr. Graves. The disease is indicative of deeply-seated constitutional disturbance, and must always be viewed with apprehen-

sion; and even of those apparently cured, the amendment is occasionally but temporary. The great objects to be had in view in conducting the treatment, are to restore the functions of the stomach, bowels, and skin, and to diminish the excitement of the kidneys. The medicines by which this is to be attempted are chiefly mild aperients, tonics, diaphoretics, mild anodynes. Toast-water, slightly acidulated with muriatic or nitric acid, is recommended; to be taken, however, in quantity not greater than is indispensable for the alleviation of the thirst, which is always urgent in such cases.

The azoturia, wherein we have a superabundance of urea, comes next. High living and a free action of the skin will at any time increase the proportion of saline ingredients in the urine; but in some cases this, as regards the proportion of urea, is habitual, and forms one of the modifications of urinary disease described as diabetes. The specific gravity of such urine is generally high (between 1.018 and 1.035), but not invariably so; Mr. Rees having, in the 19th volume of this journal, detailed a case in which it was so low as 1·008. In this form of the disease, the calls to void the urine are not only very frequent but extremely urgent, owing to the great irritability of the bladder. The disease is chiefly met with among those who have formerly lived freely, and have been originally of nervous temperament. There is thirst, gnawing at the pit of the stomach, and a peculiar hollow-eyed anxiety of expression. Children are frequently subject to this form of the disease; a circumstance to which Dr. Venables some years ago directed attention. This form of disease has been observed to alternate with, and to be the precursor of, the worst forms of diabetes, with saccharine urine. Still the disease is to be regarded, if taken in time, as frequently amenable to remedial means; the function of the kidney being as yet "not so much *altered,* and simply *increased.*" General as well as local bleeding are frequently requisite; cupping on the loins, and blisters, followed by tonics and chalybeates, opiates, and regulated diet.

This chapter concludes with some short directions relating to the modes of examining the urine, and with them we shall also terminate our present notice, meaning to resume the subject in an early number.

"The physical and chemical investigation of the varieties of morbid union comprised in this chapter, is to be undertaken on the same principles. The general appearance, degree of transparency, disposition to deposit, odour, &c. are to be noted. The specific gravity is then to be ascertained, a piece of knowledge easily procured by means of an instrument,—hydrometer or urinometer, sold in the shops for the purpose. A given quantity of the urine, say 1000 grains, is then to be slowly evaporated, at a temperature not exceeding 160 or 200 degrees of Fahrenheit, till it ceases to lose weight. The quantity of extract being ascertained by weight, the proportion of the solid matter to the water will become exactly known. The extract is next to be digested with strong boiling alcohol (sp. gr. ·833,) which will take up the urea and salts (the lactates) which are soluble in alcohol. What is dissolved is to be poured off; what remains is to be washed once or twice with a little fresh boiling alcohol, which is to be added to the first. The alcoholic solution is then to be reduced by slow evaporation to the consistence of extract, or till it ceases to lose weight, and its quantity ascertained. The saline mass which was insoluble in alcohol, is to be treated with distilled water at 60 degrees Fahrenheit, two or three times, and the different solutions being added together and evaporated to dryness, the quantity of saline ingredients,—the soluble chlorides, and alkaline phosphates and sulphates, will be discovered. The insoluble matters, consisting principally of the earthy phosphates which remain on the filter, being dried, are to be weighed. They are afterwards to be digested with caustic potash; and being dried and weighed again, the quantity of mucus or other animal matter will be estimated by the loss of weight, if any, which is sustained. This is as much as is required for medical purposes. For every information requisite in conducting a more minute analysis of the urine, I beg to refer to the excellent treatise of Mr. G. Rees, entitled, 'On the Analysis of the Blood and Urine in Health and Disease.' 8vo. London, 1836."

DR. CONRATH ON THE BATHS OF FRANZENSBAD.

Ueber die neuen Bade-Anstalten zu Franzensbad, und die hier erst erfundene verbesserte Methode, kohlensaure Eisenwässer auf Flaschen zu füllen und zu versenden. Von M. D. CONRATH, Brunnenarzte. (Zum Vortheile des Franzensbader Armenhauses.)

On the new Bathing Establishments at Franzensbad, and the new and improved Method first discovered there of bottling and exporting carbonated Chalybeate Waters. By M. D. CONRATH, Physician at that Watering-place. For the benefit of the Franzensbad Poor-house. 8vo. pp. 90.

FRANZENSBAD is situated near Eger, in Bohemia, and is celebrated for its mineral springs, which are used both for bathing and drinking. There are four springs, all of which are nearly of the same temperature, or about 53° of Fahrenheit; they contain a quantity of solid matter varying from 26 to 33 grains in the pound, consisting chiefly of sulphate of soda, carbonate of soda, muriate of soda, and carbonate of lime, with a little carbonate of iron, besides a considerable quantity of free carbonic acid gas. According to Dr. Conrath, these baths are indicated in general debility after violent uterine hæmorrhage; weakness and impotence from sexual excesses; the debility following feverish and chronic diseases, or the too protracted use of mercury; diseases of the uterine system proceeding from simple debility; general cachexia and dyscrasia, shewing itself in the form of atonic gout, chronic rheumatism, obstinate ulcers, scrofula, and rickets; in dyspepsia, disordered secretion of bile, migrain, hemorrhoids, and hypochondria, when they arise from mere weakness; chronic diseases of the nerves proceeding from debility; and lastly, as a preparatory course to stronger and more heating chalybeates, as well as an after course when resolvent and weakening waters have been previously used. He does not mention the temperature at which they are generally employed, but gives the case of a young lady who used them with great advantage, and could never bear the temperature higher than 86° of Fahrenheit, and at last took the baths at 77°. Dr. Granville says the baths are seldom colder than 90°, and never warmer than 98°.—(The Spas of Germany, 2nd edit. p. 303.)

The baths are contraindicated, says Dr. Conrath, in all kinds of fever, in inflammatory habits, and when the patient is disposed to active hæmorrhage, or to apoplexy; in cough attended with hemoptysis; in tubercular phthisis, internal suppuration of any organ, and induration or scirrhus of the viscera; the venereal disease in its various forms; and congestions in the chest or head. Children, pregnant women, and the aged, should not use these baths without medical advice.

We pass over the account of the mud-baths, and the gas-baths, both of them most powerful agents in the cure of disease, as the reader will find them fully described in Dr. Granville's work. He mentions the case of a little girl who had long been afflicted with malignant scrofulous ulcers in both legs, and in whom, after eight gas-baths, all the ulcers, except one, were healed, and that one was in a fair way of following the others.—(The Spas of Germany, 2nd edit. p. 306.)

Dr. Conrath gives an account of the method of bottling the Franzensbad water for exportation pursued by Mr. Hecht; from which it appears that it is the joint offspring of a hint given by Berzelius when he visited the place in 1822, of a method described by our countryman, John Masterman, which is to be found in Dingler's Polytechnic Journal, and of Mr. Hecht's own unwearied labours. The upshot of it is, that the atmospheric air is excluded, during the corking of the bottles, a gasometer filled with carbonic acid gas being so cleverly connected with the machine, that the vacant space requisite for the reception of the cork is instantly filled with carbonic acid gas. By this means the water can be preserved without decomposition, while other chalybeate springs bottled after the old fashion deposit the greater part of their iron; so that, as our author pleasantly observes, iron-fearing patients and physicians need not hitherto have been so frightened at exported chalybeate waters.

On the whole, there is a strong body of evidence in favour of the healing powers of Franzensbad. At present it is certainly not a very fashionable

watering-place, but this to many will be a recommendation. The drooping and disheartened invalid, worn out with hardships or pleasure, may get well at Franzensbad, without the constant inspection of his friends from Piccadilly and Cheapside. Such, at least, is the case at this our present writing; perhaps some few years hence it may be requisite for the shy and retiring patient to take refuge at the healing waters of Greece or Portugal.

MEDICAL GAZETTE.

Saturday, November 24, 1838.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

TESTIMONIALS AND CERTIFICATES.

We intend to offer a few observations on three kinds of certificates and testimonials commonly given by medical practitioners. The first are those which are bestowed upon the candidates for vacant offices at hospitals and dispensaries. Of these it may perhaps be said that they sometimes err a little on the side of good-nature; but, after all, this defect is not of much importance. It rarely, if ever, happens that the scale is turned at elections by written testimonials; though if the eminent practitioners who give them should also add the weight of their private influence, an inexperienced observer might attribute those happy effects to written documents which are really due to a few spoken words. "We must bring in Tims," said by the proper man at the proper season, will do more than a quire of pen-and-ink certificates. Their worthlessness is known and appreciated.

We once, however, heard of a voter whose favour was to be secured by written documents. Some years ago we were looking over the list of governors of a dispensary (in expectation of a speedy vacancy), with the aid of a friend eminently skilled in medical elections, and possessing an almost faultless knowledge of the method of reaching each vote at that institution. We went through the catalogue name by name. "Do you know Dr. A.?" "Yes." "Well, then, besides his own vote, he will get you this man and this." "If you can secure Vafer, you are sure of Simplicius, his son-in-law." "In the Saffron Hill district, you will find Surgeon T.'s name act like a charm, and draw shoals of voters into your net." At last we came to a Mr. P. "Ay, this man," said our infallible friend, "goes by the testimonials!" One, and one alone, was faithful to the spell—the single slave of the lamp among the governors of the Sun Street Dispensary!

On the whole, therefore, we have little or nothing to say against this class of testimonials. The only regret they cause us is, that the host of candidates who obtain the warmest testimonials with the greatest facility, and generally with the most justice, form but too strong an argument in favour of our old position, that the profession is lamentably overstocked; nay more, that it is overpeopled with candidates for employment, who, if we may use such a phrase, are not only legally but medically qualified.

Every hospital, and we believe we may add every dispensary in London, besides its staff of medical officers, has an ample list of supernumeraries eager to occupy their places—to step into retired men's shoes! Of these not one in five can have his hopes fulfilled. Can any thing be more melancholy than to see the crowd of expectants, most of them admirably qualified to fill the posts which they can never obtain, linger on in fruitless attendance, while their hair grows grey, and their spirits

fail beneath the stroke of disappointment?

Perhaps some of them may be more fortunate, and may be blessed with the place of assistant surgeon or physician at the age of 40; so that by the time he is 50 he may hope to be considered a rising young man. Dr. Caspar has given various causes for the shortness of life in the medical profession, but we do not recollect that he has mentioned the hope deferred, which makes the heart sick.

Mr. Lawrence, indeed, acts the part of Job's comforter on this point, for he tells us, in his Hunterian Oration, that "it has been a trite, but, I believe, most unfounded complaint, that genius is neglected, and that men of talent and information are precluded from opportunities of exertion and display by favouritism, monopoly, or other obstacles. Within my own experience, the difficulty has always been to find talent for the place, not opportunity for the talent. This, indeed, is natural; genius being rare, while fit occasions for its exercise are of constant occurrence."

Now this is true or the reverse, according to the height at which we pitch our standard of talents and acquirements. Suppose, for instance, that when a vacancy occurs at a London hospital, we require the person who is to fill it, not only to possess a sound and practical knowledge of his profession, but to be perfectly skilled in all the subjects set forth in the manifesto of the new University which we have lately brought under the notice of our readers: why, we might search London through and not find a candidate, nor half a one. So that the difficulty would be, as Mr. Lawrence supposes, to find [ideal] talent for the [actual] place, not opportunity for the [ideal] talent: or, if we were to be somewhat less *exigeant*, and frankly confess that we would put up with a Hunter or a Baillie, we might still be disappointed; London, and even several of the surrounding counties, might be ransacked in vain.

But if we descend a dozen steps lower, and content ourselves with men perfectly qualified to discharge the duties of hospital physicians or surgeons with credit to themselves and advantage to the public, and also capable of adding their mite to the stock of professional information—the difficulty is no longer to find, but to choose. It is a hard thing to reject the hungry applicants, and tell them, with the stern air of a Malthusian, that the table is full, and they must seek places elsewhere; yet this must be done, and is done every day.

Hence the testimonials we have been considering bear witness by their abundance to the wants and miseries of the profession, and tell of superfluous talent and unrequited industry.

Certificates of the second kind are those which testify the attendance of pupils on lectures, and hospital or dispensary practice. If testimonials of the first kind were comparatively inert, these are positively bad; for scarcely one in ten can be termed accurate. If a pupil hears three lectures out of seventy, can he be said to have attended the course?—if ten, to have been diligent? if thirty, to have been exemplary? The faces of teacher and pupil are sometimes mutually unknown; and it is recorded that a pupil in a celebrated school once asked Professor Stamen which was the professor of materia medica, and being informed that it was the very person of whom he inquired, immediately begged to have his certificate of attendance!

As for hospital instruction, even that is not followed by the bulk of nominal students as it ought to be. Dr. Latham in one of his clinical lectures, observes, that the majority of pupils do not follow

up a single case from its beginning to its termination, throughout the whole of their hospital attendance. But in this respect we are happy to say there has of late been much improvement. Still medical education will not be what it ought until these tricks are corrected, and certificates more nearly represent facts. Perhaps we might add, that medicine will not be effectually taught till medical schools are more nearly assimilated to classical and mathematical ones. At school, or the university, Euclid is not taught by masters merely dilating on the merits and explaining the difficulties of the Alexandrian geometer, but by the pupil, with the figure before him, giving the demonstration from his memory, and, when more advanced, supplying the defects of the latter by his invention. In like manner, if anatomy were really taught, the pupil should take up the bone, or the dissected limb, and demonstrate the parts to his instructor. This is the way that Baillie seems to have been taught by Hunter; though it is said that the pupil was obliged to pursue a more laborious method, and demonstrate without having the preparation before him.

At a real school, we take it for granted that some method would be adopted, if not of compelling the attendance of students, at least of noting the absent, refusing certificates to the incorrigible truant, and reserving epithets of praise for genuine diligence.

Till this happy era arrives, the mock certificates must continue to be one of the sorest and weakest points in medical economy, and though familiar from usage to professional men, scarcely to be mentioned to the laity without a blush.

But if we object to these certificates as *positively* bad, what shall we say to those which are *superlatively* so—to the testimonials which it has been of late the fashion to give to quacks and demi-quacks in all their varieties?

A madhouse, a solution of copaiba, two sorts of clyster-pipes, certain miraculous spectacles, and a universal ointment, are among the sundries which we have seen violently puffed off, with the appended testimony of medical men—aye, and distinguished medical men, too. It is strange, indeed, to see some of the first names in our profession tacked to quack advertisements, and not to hear that they are forged. In certain instances the letters written have been garbled, the pill- or spectacle-monger leaving out some of the most essential words, and thereby heightening the praise to any required amount. The men of salves and eye-glasses may have learned this art from book-makers, who practise it with great ingenuity. Thus let us suppose that a reviewer had said, "in spite of numerous errors, Mr. Bolus's treatise on capsicum may be made *useful to students* in a future edition," your sharp-eyed selector picks out the three words which we have put in Italics, and prints them as the reviewer's opinion. But in the quackeries we have just before mentioned, the opportunity of garbling ought not to be afforded; no letter should be written to a professed quack, or if any accident made this absolutely necessary, it should not contain a word about his nostrums. A Frenchman once wrote a *Réponse* AU SILENCE *de M. Vaugelas;* but few quacks would have the ingenuity to make a puff out of nothing. As for the things themselves, the unwearied zeal with which they are advertised is enough to make any reasonable person doubt their virtues. "Do not cry roast beef," says an old saw; to which we would add as a new commentary, "You need not." Very little proclamation of its merits will suffice for a really good invention, while a thousand a year has sometimes been spent to keep up the

bad eminence of a nostrum. The quack medicine sinks into oblivion as soon as newspaper aid is withdrawn, while a useful discovery

"Volitat vivu, per ora virûm."

DEATH OF BROUSSAIS.

Professor Broussais died at one o'clock on Sunday morning, the 18th instant, at his country-seat of Vitry. He was born in St. Maloes in 1773. This celebrated reformer had acquired an immense celebrity, and his loss is certainly one of the greatest that medicine has suffered for some time. The author of the examination of medical doctrines—the founder of physiological medicine—the ardent defender of inflammation and leeches—has, by the power of his systematical genius, by the energy of his convictions, by the vivacity and even violence of his controversy, shaken medical theories to their foundation. During upwards of ten years he (the professor of the Military Hospital of Val de Grace) had to maintain the most animated discussions. He at first found no adversary to take up the gauntlet, but when he had founded a dissenting sect, preached the most redoubtable crusade against the doctrines of the school, and propagated the most violent schism, by which all the powers of the indefatigable Athleta could not prevail against the force of the faculty, the strenuous advocate exhausted all his strength in combating a re-action which he could not overcome.

Like all great reformers and founders of systems, M. Broussais has done good and evil. Impartial history will apportion the share of each; but from this day we may safely enrol the name of Broussais among the glories of France. —*Times, from French Paper.*

A subscription has been opened in Paris, for the purpose of erecting a monument to the deceased.

REPORT ON WEATHER AND DISEASE AT HAMBURGH, in 1837.

January, February, and March, were very moist, but not cold; April was colder in proportion, bringing with it much snow and stormy weather; May, too, was very rough. A high temperature first appeared with a clearer sky in the middle of June, and lasted till the 20th of August; after a violent thunder-storm on this day, a colder temperature prevailed until the middle of September, and was then succeeded by more sunny days, until the end of October. November and December were rather cloudy and foggy, than bearers of snow and cold. The thermometer attained its highest point in August, and its lowest in February.

The state of health in Hamburgh in 1837 was far from satisfactory. The mortality, including 349 still-born children, was 5462, being an excess of nearly 1200 above the previous year, which is explained by the existence of four epidemics in the course of 1837. The number of births was 4904, including the still-born, being only 185 more than in the previous year.

The character of disease in 1837 was especially catarrho-rheumatic, and most decidedly so in the months of January, February, March, April, May, June, and December. In July it shared its dominion with the gastric form; August brought more gastric and gastro-rheumatic maladies; in September gastric disease particularly prevailed, which in October became mingled with catarrhal complaints; but in November the gastric character again predominated, which was most clearly shewn in the measles, which were common in this month, and bore a decidedly gastric stamp.

First epidemic: the Influenza.—The influenza appeared in the first days of January, and the cases became more frequent about the 5th or 6th; the epidemic reached its acmé between the 15th and 20th, and there were no fresh cases after the first week in February; so that the epidemic lasted five weeks. There was nothing in the preceding month that could be distinctly considered a precursor of the epidemic; it is true that the character of disease in December, 1836, was catarrho-rheumatic: but this is the regular form in our climate in December, when the weather is mild; nor did the phenomena of disease, either in quantity or quality, deviate from the ordinary catarrho-rheumatic forms. The attack of the influenza often came on, especially in robust subjects, with the rapidity of lightning; but in other cases there were precursory symptoms, as in catarrhal or rheumatic fevers, such as twitches of the limbs, shivering sense of confusion in the head, unquiet sleep, want of appetite, costiveness, &c. After these symptoms had lasted more or less time, there came on feverishness, which was generally exacerbated in the evenings, headache, giddiness, flow of

tears and heat in the eyes, with injected conjunctiva, cold in the head, cough, sore-throat, hoarseness, sense of anxiety and oppression about the chest, occasionally stitches in the side, pain in the limbs, and more especially about the lumbar vertebræ, sleeplessness, loaded tongue, and disturbed digestion. But the most constant symptom of the influenza was the extreme sense of weariness with which it announced itself; and which, when compared to the same symptoms in other diseases, seemed to bear no just proportion to the duration of the malady, and the sufferings of the patient. Less frequently, the catarrhal phenomena were preceded by vomiting and diarrhœa: perspiration was not a common occurrence; but in some few cases where it was very profuse, it seemed to have a favourable influence on the course of the disease, as did also the epistaxis which was occasionally observed. A crisis seldom was ascertained by means of the urine, as the disease seemed more disposed to a resolution than to a crisis; yet some few crises seemed to take place by diarrhœa and herpes labialis. Bloody sputa were rarely seen, but the cough, which was violent and often spasmodic, sometimes produced early or profuse menstruation, and in pregnant women abortion, so that there were forty-one still-born children in the month of January. The discharge from the nose, as well as the expectoration, were similar in quality to those of catarrh in its different stages, but was often much greater in quantity; those, especially, who were suffering from chronic diseases of the chest, when they were attacked with influenza, expectorated enormous quantities. The cold in the head was preceded in some by a sense of burning in the orbit and its neighbourhood; in others, for the most part elderly persons, the pains in the calves and soles of the feet were uncommonly sharp. Some single cases were observed of salivation, swelling of the submaxillary glands, aphthæ in the mouth, *diarrhœa cruenta* in children, and strangury.

The duration of the malady was very various. Persons of robust constitution were often able to follow their business in two or three days, although the feeling of weariness had seldom disappeared so soon; children, on the whole, got well the quickest; while weak and sensitive persons had often to struggle with the disease three weeks and more. The average duration was from eight to ten days.

The extent to which the disease spread was unusually great; Dr. Rothenburg, indeed, supposes one-half of the population, or 65,000 persons, to have been attacked. The number of patients in the general hospital increased, from the 7th to the 14th of January, from 1419 to 1502; and on the 21st reached 1558; from which number it gradually decreased to 1424 on the 1st of July. Of 900 active men in garrison, (officers and invalids not being included), 205 were attacked. Domestic animals, too, fell sick; in particular, dogs and cats were heard to cough. The influenza predominated so much over other diseases, that of 222 new cases of disease, which the reporter had to treat in January, 171, or nearly $\frac{13}{16}$, were pure cases of influenza, and the majority of the remaining $\frac{3}{16}$ were mere or less influenced by the epidemic. Contrary to the wont of other epidemics, but from obvious causes, the lower orders were, generally speaking, attacked later than the classes above them; in other respects, neither age, sex, nor rank, seemed to make any essential difference in the disposition to the disease.

With respect to complications of the disease, we must first mention affections of the chest. Elderly persons labouring under chronic bronchitis, often died at this time with the symptoms of suffocative catarrh, or paralysis of the lungs. Children with a badly formed thorax, &c. frequently sank under inflammation of the lungs. Pleurisy and pneumonia, however, also occurred in the prime of life, and in robust constitutions; especially when injurious exciting causes, such as getting wet through, had preceded; and then, on dissection, exudation or hepatization was generally found. It is scarcely necessary to mention to a practical man that the influenza frequently produced the germ of phthisis, and that the phthisical at that time endured additional sufferings. One very unfavourable complication was with affections of the brain, which were observed during the period of dentition, or as a metastasis from rheumatism. Erysipelas sometimes occurred. Of fifteen or eighteen patients attacked by this disease in the work- and poorhouse, eight died with symptoms of phrenitis. Gastric and polycholic attacks also occurred.

Inquiries into the contagiousness of the influenza would be as difficult as they would be here out of place; yet we will mention the observation made in the military ward, that when other patients were placed among those suffering under influenza, the former began to cough as soon as they entered the ward. As to the treatment, we cannot entirely agree with Dr. Behre, when he calls upon the physician to employ energetic measures from the commencement of the malady. We have not so often met with thoracic inflammation as an attendant on the disease as Dr. Behre, who designates the disease as an epidemic inflammatory catarrhal fever. When this complication did occur,

we were obliged to employ the lancet; but on the one hand, great caution was required in the repetition of bleeding, for fear of bringing on a collapse; and on the other, in the great majority of cases, if the diet was properly regulated, above all, if a suitable beverage was selected, such as gruel, Seltzer water, with boiling milk, and the like), the cure was very conveniently left to nature. It requires, of course, no special mention, that in many cases expectorants, demulcents, resolvents, &c. were useful remedies, which each practitioner selected according to his predilections or former experience. Apperients were advantageous in many cases, whether constipation was present or not. We cannot agree with Dr. Behre in thinking constipation a constant symptom in influenza, but we are of his opinion that emetics were generally of no use; for we will confess, that in the beginning of the epidemic, and particularly where nausea and gastro-polycholic phenomena appeared to give a double indication, we tried to cut the disease short by an emetic, but never succeeded. As to the after-diseases, they have been already partly pointed out in the enumeration of the complications. It is obvious that long-continued blennorrhœa, chronic rheumatism, phthisis, œdema of the feet, general dropsy, and a protracted state of debility, must often have followed the influenza; but we must not omit to mention the observation of several physicians, that intermittent neuralgia made its appearance in several forms.

We may add historically, that the epidemic of 1837 bore a great resemblance to the one of 1557 (*Marcellus Donatus de Histor. Med.* p. 636; *Schweich die Influenza*, p. 59); to the one of 1658, described by Thomas Willis (*Willis Opp. Omnia*, Genev. sect. ii. p. 296); and to the one observed by Sydenham in 1675 (sect. v. cap. v.), where this experienced physician reminds us so impressively always to consider the *genius epidemicus* as the pole-star of the treatment, which genius in this epidemic could not bear the *ingens remediorum molimen*, and repeated blood-lettings. Moreover the epidemic was very similar which lasted from 1731 to 1735, and which was described by Van Swieten (*Raulin des Maladies Occasionées*, p. 283; *Schweich*, l. c. p. 81); the one of 1767 scarcely differed, but by having been less extensively diffused (*Schweich*, l. c. p. 102; *Gluge die Influenza*, p. 88). There is a still greater resemblance in the one of 1781-2, which was well described by Dr. Mumsen, a physician of Hamburgh, in a pamphlet printed at Hamburgh in 1782. Sleeplessness does not appear to have been so common in that as in our epidemic; and attacking the disease with powerful remedies is bitterly censured, as being dangerous, and even fatal.

Second epidemic: the Mumps.—This disease appeared from May onwards sporadically; it began to be epidemic in September, and in October already began to decrease considerably; yet some cases were seen till the end of the year. It was extensively but not excessively diffused. The great majority of cases were children, from five to thirteen years old; the mumps were of an uncommonly favourable kind, hardly ever had a metastasis, and rarely required medical assistance. As far as we learned, they were fatal only in one case, where they were complicated with a chronic disease of the brain. They offered nothing worth mentioning, except that the submaxillary gland seemed to be attacked more frequently than usual.

Third epidemic: the Cholera.—We can no longer give the cholera the special name of Asiatic, as the experience of several years has taught us (unfortunately almost the only result that has been obtained) that there is no constant differential mark between the cholera observed of late years and the form which existed previously, and that the milder kind often passes into the more violent one.

In August, several kinds of bilious vomiting and diarrhœa occurred, sometimes accompanied by cramps in the calves—symptoms which about the end of the month took an unfavourable turn, so that in the bills of mortality there were four deaths from cholera, four from *cholera infantum*, and one from diarrhœa: but the first decided appearance of the more destructive kind was in September, in which month there were 102 deaths from cholera; in October there were 93 fatal cases, and in November 10, besides one of diarrhœa; in December there was not one. The whole number of cases must have been about 300, as almost two-thirds of those who were attacked died.

As this disease, of late years, has really been spoken and written about till people are quite sick of it, we will here mention only the more general or specially interesting observations.

The first thing worthy of note is, that many cases seemed to speak strongly for the contagiousness of the disease, and that the partisans of this theory increased among physicians; and that even the non-contagionists found themselves obliged to assume a family disposition for cholera.

On the other hand, we must not conceal the arguments on the other side, drawn first from the great number of persons attacked with cholerine (some of whom were quite void of fear,) though not so numerous as in our earlier epidemics; secondly, from the fact that the theatre of the earlier epidemic, namely, the

southern part of the town lying near the Elbe, was again attacked by preference this time, although, of course, there was not the slightest attempt at separation or stoppage of intercourse; and lastly, from the observation, that other diseases became modified by the choleric type, and were attended with spasms in the calves, iety, &c.

The first cases seemed again to occur among sailors. The lower classes and drunkards were especially attacked, and women more than men; but in women, from their well-known greater power of resistance, and the less injurious exciting causes, the disease was less malignant; so that of 215 fatal cases, 119 were males, and 96 females; while in this number there were only 27 who had not yet attained their tenth year.

This epidemic is distinguished from those of former years, not only by its greater mortality, but by the absence, even in many fatal cases, of some symptoms previously considered as characteristic. There was an occasional absence of the coldness and the *vox cholerica;* the evacuations were often bilious, and the cramps slight; the blue tinge is said to have been less frequently observed, and the typhous stage came on less often. Lastly, the fatty spots upon the blood were seen only in the paralytic form. The dissections did not offer any differences of note from the earlier ones; the *trichocephalus dispar* has never been found here.

In the case of a woman in the hospital, treated with saline injections, the blood was found to be thin, the liver and the bile pale; in the left auricle there was a firm coagulum, and the cellular substance was emphysematous—an effect which was not produced by air injected at the same time.

Most of the attacks were preceded, as formerly, by diarrhœa, but with this difference, that it rarely lasted several days, and often only an hour or two.

Among single observations it deserves mention, that occasionally in the second stage of the disease, eruptions appeared, sometimes resembling nettlerash, sometimes scarlet fever, and sometimes roseola; that in some few cases violent cramps were observed in the muscles of the back; that in one patient, who ultimately got well, there was colliquation of the cornea on the sixth day; that in another patient, who was not a drunkard, a state came on resembling *delirium tremens*, which was cured by a treatment similar to the one employed in that disease; a couple of times the evacuations were like bloody serum; and once the attack was preceded by *gangræna senilis*. Prognosis left us in the lurch; and of the attempts at cure we cannot even say *meminisse juvabit*. The emetics given at the commencement, even when they acted, which was far from being always the case, did not agree well. As to bleeding, from the beginning onwards, opinions were divided. (In the general hospital they employed cold baths, an infusion of ipecacuanha, with spirits of ammonia, or anodyne solution of camphor, and sometimes also an emetic. If the nausea continued, they gave the magistery of bismuth (the trisnitrate) and calomel. In the stage of reaction, besides general and local bleedings, they employed baths with cold effusion.)

Friction with ice was often the best remedy for the cramps in the calves, and effervescing draughts the best for the vomiting. A couple of cases of cholera were cured with the root of belladonna in half-grain doses every hour, with occasionally some calomel, and at other times quinine.

But let us hasten from this field where fewer laurels grow than weeping willows, and pass on to the measles, which, indeed, do not belong exclusively to 1837, as they occur from time to time even now (the end of April 1838.)

[To be concluded in our next.]

WESTMINSTER MEDICAL SOCIETY.

Saturday, 10th November, 1838.

Mr. Hale Thomson, President.

Different Forms of Ossification in the Heart.—Rheumatic Pericarditis.—Cases of Aphonia.

Dr. C. B. Williams was elected an honorary member of the society; Mr. Streeter was named vice-president; and Dr. G. Bird was placed on the council.

Mr. Pettigrew, jun. commenced the proper business of the evening by relating the particulars of a *post-mortem* autopsy which he had witnessed at Glasgow. The case was that of a young woman, about 20 years old, who died of ossification of the aortic valves. The body was brought into the theatre; the history of the case was read; Dr. Cowan, the physician, gave a lecture on the subject, and prognosticated from the symptoms and physical signs that the valves of the aorta were ossified. The examination justified this prediction. Mr. P. wished to be informed whether this morbid change was not unusual at so early an age.

Dr. Johnson inquired whether the diseased valves were puckered, and what were the symptoms which induced Dr. Cowan to form his prognosis.

Mr. Pettigrew had not attended particularly to the reasonings of Dr. Cowan;

he merely remembered the result; and his cursory view of the diseased part did not enable him to say whether the valves were puckered or not.

Dr. C. B. Williams considered Mr. Pettigrew's question as interesting rather pathologically than clinically. His experience led him to conclude that these ossific depositions in the cardiac valves were not uncommon in adolescence. He considered these depositions to be amorphous; they were the result of chemical action rather than of any vital process. In the bony matter deposited on the sides of arteries, a decidedly lamellar arrangement could be detected; but in these valvular concretions a transverse incision exposed a crystalline formation.

Dr. Golding Bird's experiments confirmed the reasoning of Dr. Williams. He had had numerous opportunities of testing these concretions; and when slowly digested in acid, he had always found them to dissolve entirely, leaving no membranous relic behind.

Dr. Chowne had found these results of endocarditis present occasionally, the true ossific character, especially in the mitral valves, which in some animals, even in the normal state, had an osseous rim.

After a pause, Dr. G. Bird perceiving the discussion touching the ossification of the valves had ceased, related the case of a boy that he had seen in his dispensary practice. The boy had a severe attack of acute rheumatism, which had continued for some days, affecting several joints. The ordinary remedies were employed. One day he suddenly found himself relieved from all pain, and enabled to move about without inconvenience, and enjoyed a high flow of spirits. After three hours, however, violent symptoms of pericarditis supervened, the action of the heart and pulse was violently increased; a double *frottement* was obvious to the ear. The breathing was greatly accelerated, and the countenance became indicative of great anguish. He was then in course of treatment for pericarditis. The doctor asked to know if any member present had met with a similar case.

Dr. Johnson said, that whenever any such sudden cessation of symptoms occurred, the surgeon might expect a storm. A metastasis to the heart or stomach would infallibly occur. In the case of the boy, related by Dr. Bird, he thought most likely adhesion of the heart and pericardium would occur, or effusion of serum into the bag of the pericardium would first take place, and then be absorbed, and finally, adhesion be produced. The boy might live for many years.

Dr. C. B. Williams would be glad to know from Dr. Bird what were the stethoscopical signs during the interval between the departure of the acute rheumatic symptoms and the coming on of the violent pericarditis. He (Dr. W.) was of opinion that the heart was more involved in these diseases than was generally suspected. In the case of the boy, he had no doubt that the disease was in the heart at the moment of the cessation of the rheumatic pains, and remained latent till the accession of the violent paroxysm. The heart was often affected without giving any notice by pain or other obvious token, and often perpetrated much mischief before the vigilance of the medical practitioner was aroused.

Dr. Johnson inquired of Dr. Williams what was the disease present in the heart on these occasions?

Dr. Williams replied, endocarditis and pericarditis.

Dr. Johnson said, that in that case simple rheumatism was a much more serious thing than he had ever considered it. He did not believe that in the generality of cases of simple rheumatism the heart was affected. It was notorious that most of these attacks were removed by very simple treatment, and that no cardiac symptoms whatever could be detected. Violent and injudicious treatment, such as an excessive bleeding and the too frequent use of the warm-bath, by producing great debility, were circumstances not unlikely to bring on these inflammatory affections of the heart; but in ordinary cases, and with tolerably judicious treatment, he thought no such results need be anticipated.

Dr. C. B. Williams said, that with some people endocarditis and pericarditis were terrible words; but in his opinion their importance had been too much magnified, and the seriousness of acute rheumatism had been equally undervalued. He had often detected by physical signs the existence of carditis, when no symptom of any kind indicated it. In the great majority of rheumatic cases, he was of opinion that inflammation of the heart was coexistent with the presence of the malady in the muscular or synovial tissues.

Dr. Bird observed that the patient was not under his care, but under that of his colleague, Dr. Thomson; but as he lived nearer to the patient than Dr. T. he had been sent for on the accession of pericarditis. He had had no opportunity of examining the boy during the interlude of ease. He was disposed to coincide in opinion with Dr. Williams, that inflammation of the heart was a more common incident than was generally supposed.

Dr. Chowne thought that symptoms were often ascribed to endocarditis or pericarditis as a cause, when the real evil was a rheumatic affection of the arthradial membranes of the ribs, of the intercostal muscles, or of the diaphragm.

Mr. Pettigrew stated, that he had generally observed that a copious deposition of yellow or orange-coloured fat was a concomitant of the calcareous deposition between the folds of the serous membranes forming the cardiac valves.

Mr. Jones suggested that the seat of rheumatism was the neurilemma, not the proper tissue of the muscles.

Dr. Chowne, after a short pause in the discussion, inquired of the President if he had seen in the Westminster Hospital a case which had been related in the newspapers, of a policeman who had been struck suddenly with a suspension of articulation, which, after three days, he as suddenly recovered. He asked the question in reference to an opinion delivered by Dr. Beck, in his "Medical Jurisprudence;" who states, that no man who has the use of his tongue is dumb, unless he also be deaf.

The Chairman stated that he had seen the case cursorily. The man was not deaf; he could move the tongue perfectly; he could not apparently articulate a word. He made an incomprehensible noise in the throat whensoever he attempted to speak.

Dr. Johnson thought the policeman was an impostor.

Dr. Chowne was inclined to think that the case was not an imposture, because he had had a case somewhat similar. An aged woman, a patient at the Charing-Cross Hospital, had lost the power of articulating all but the words *yes* and *no*. He had no reason to suppose she was a cheat. She was treated with alteratives and tonics, and partially recovered. She was afterwards visited by a recurrence of the affection, was treated at another institution, and died. He had no opportunity of examining the body.

Dr. Bird suggested that the symptoms in Dr. Chowne's case might be explained by the analogy it bore to those cases where, in consequence of some affection of the brain, a sudden forgetting of one language and recollection of another occurred. He had seen a case in one of the Borough hospitals, where a Prussian, who had resided in England for many years, suddenly lost all memory of the English language, and spoke only German. Within twenty-four hours after this occurrence he died.

Dr. Johnson continued of opinion, that these cases of aphonia were genuine only when the motion of the tongue was impaired, which was the consequence of paralysis, or when accompanied with deafness. The motions of the tongue were conducted with great nicety, and might *apparently* be perfect when really the function was much disturbed. He recollected a case when he was a navy surgeon. It was that of the captain of a man-of-war, when going into action. Dr. J. and the patient were standing on the quarter-deck, when suddenly the captain grasped the doctor's arm, and drew him into the cabin. There he wrote upon a sheet of paper the sentence, "Mr. Johnson, I have lost the power of speech." He was bled, and treated antiphlogistically, and recovered. It was a case of paralysis, though the *apparent* motion of the tongue existed. With regard to Dr. Chowne's patient, Dr. J. thought still she was an impostor; it might be difficult to assign a motive for her conduct, and her conduct might disarm suspicion; but so did that of the O'Keys, whom good Dr. Elliotson never suspected, till their feigning was discovered by Mr. Wakley.

Mr. Edwards related a case of aphonia occurring after poisoning by oxalic acid, when there was a loss of voice for eight days, without any other lesion of the voluntary power. The patient, a woman about 40 years of age, had not only lost vocalization, but could not even whisper. She was perfectly tractable in her conduct, and there was no appreciable motive for feigning. She had never shewn any symptoms of hysteria. The motion of the tongue and the power of swallowing were unimpaired.

Mr. Chinnock considered this case to be one of simple hysteria, of which kind he had seen hundreds. He concurred in opinion with Dr. Johnson, that there always existed impairment of the motion of the tongue in genuine aphonia. He had had a case of loss of speech in the son of a gentleman, and which lasted for two years. Dr. Lee, whose name would go down to posterity, attended with him. They consulted Sir Charles Bell. There was paralysis of the tongue; all the usual remedies were tried without any good result.

Dr. Chowne said that it was an easy thing to say that a case arose from hysteria or imposture, but not quite so easy to prove it. Facts were stubborn things, and could not be made to lose their individuality, or be marshalled into homogeneous regiments. His opinion of the genuineness of his patient's disease was not shaken by the reasonings he had heard. He was convinced there might be interruptions to volition and other nervous functions, independent of imposture, hysteria, or paralysis. Who had not witnessed temporary loss of vision, or of muscular power, dependent upon disorder of the digestive functions? If these effects could exist for short periods, they might also very probably exist for longer ones. He thought these instances constitute a class of facts that ought not to be dismissed so cavalierly. They were worthy of an especial study. He did not think the case of the Prussian related by Dr.

G. Bird, was at all similar to that of his patient, or in the least germane to the matter. The Prussian, it appeared, spoke his native language fluently, and conversed rationally with Dr. Bird. It was clear that there existed no aphonia, nor any sign of paralysis. What his disease was, an autopsy would have probably sufficiently explained. In his case at the Charing Cross Hospital there was nearly complete aphonia; but there was also perfect motion of the tongue; and this was a fact inconsistent with the principle laid down by Dr. Beck.

The clock striking ten, the meeting broke up. IDIOS.

PHYSICAL SOCIETY, GUY'S HOSPITAL.

November 17th, 1838.

MR. HILTON IN THE CHAIR.

Extirpation of the Cyst in Ovarian Dropsy.

MR. GORHAM read a paper on the propriety of extirpating the cyst in certain cases of ovarian dropsy. After giving a short historical account of the different modes of treating the disease at the present day, and enlarging upon the inefficiency of all the measures, whether topical or general, the author alluded to the operation for excision, spoken of by Dr. William Hunter more than half a century ago, and which he wished to advocate, inasmuch as it was the same, in every essential feature, as that which, more recently, had claimed for itself some appearance of originality. He then read the report of the operations performed by Messrs. King, Jeaffreson, and West, which had been published in the Lancet*; and remarked, that they were all conducted in nearly the same manner. The method consisted in making a small incision through the abdominal integuments a little below the umbilicus, carefully dissecting, as in hernia, and opening the peritoneum on a director. The sac being exposed, a trochar was introduced, the cyst being prevented receding by forceps or tenaculum. The fluid was now evacuated, and the cyst drawn through the opening, which might be enlarged, according to circumstances. The substance by which it held connexion with the uterus was now cut through, a ligature applied to the uterine extremity, and returned into the abdomen. Sutures, adhesive plaister, cold lotions, foxglove, opium, and calomel, complete the treatment. The surgeons before mentioned advocated this plan because it had proved successful beyond expectation.

The objections that had been urged against the operation were then considered: and first, that of wounding the peritoneum. The risk of peritonitis from local injury, the author stated, had been greatly exaggerated. Dr. Blundell's experiments went far to prove this. The author thought it fair to deduce from these as well as from many surgical operations, the following conclusion; viz. that the mere circumstance of making an incision into a peritoneum, previously uninflamed, is not so rash a proceeding as is generally supposed. The next objection was based on the probable existence of adhesions. These were a great barrier to success. When they existed in a minor degree, they might be overcome, and this was illustrated by cases. The frequency of adhesions has been greatly overrated. It was true that in many cases they existed before paracentesis; yet in by far the greater number it would appear that this operation was the cause of them. Their situation, and the constant practice of tapping, both favoured this opinion. The author considered the following inference a correct one. The existence of adhesion is by no means an unfrequent complication of ovarian dropsy, the cyst being glued to some viscus, in a few instances, more frequently, and with greater certainty to the walls of the abdomen, the cause of this latter being, in most instances, referrible to inflammation set up by the process of tapping.

The author here alluded to the diagnosis of adhesions.

Another objection to the operation was, that patients may live many years without any interference at all; but the operation may carry them off in a few hours. This was true. The same might be said of many other operations. Patients, for the most part, did not survive four years after the first tapping. Again, if the early period once passed by—if paracentesis was once performed—or inflammation once set up—the chances of success were reduced to a mere conjecture. Hence a rule—if excision be performed at all, let it be done early. This, however, was opposed to the opinion of Dr. Hamilton, who says that the operation is "unnecessary, if the disease be stationary." Various other objections were combated by the author; and the paper concluded as follows:—"Considering how very many serious objections may he urged against paracentesis, why this should be in such repute, to the almost total exclusion of the mode by excision, I know not. As to the relief afforded by tapping, it is generally only temporary. 'There are,' says Dr. Bright, 'I believe, few instances on record where this operation has apparently been followed by complete cure.' This is saying very little in its favour, considering the many thousands of times it has been per-

* Lancet, Jan. 21, and Nov. 25, 1837.

formed. There are, too, several objections to it, which may be enumerated concisely as follows:—1st. Exhaustion may follow the too rapid evacuation of the fluid. 2d. Inflammation of the peritoneum may carry off the patient. 3dly. The sac refils, and requires repeated tapping. 4thly. There may be a many-celled encysted dropsy, or a too viscid fluid: and 5thly. Patients sink without any very evident cause. Scarcely more can be urged. Instead of thousands, few operations for excision have as yet been performed, and they have succeeded beyond expectation. As regards the rapid evacuation of fluid, the danger is as great in the one case as in the other. As to subsequent inflammation, the chances are reduced, on actual comparison, to a smaller amount after extirpation than tapping. No sac is left to refill; for through the incision into the abdomen we are enabled to take away a sac of considerable thickness, with many cells, whether the fluid be viscid or not."

At the conclusion of the paper an interesting debate took place, in which Drs. Locock and Ashwell joined. The opinion of these gentlemen was, that much encouragement was held out for the performance of the operation; but that the greatest care was requisite in forming a diagnosis as to the existence of adhesions or solid malignant growths. A case was mentioned, in which Mr. Lizars, of Edinburgh, was so far deceived, as to operate when no disease existed; and in this instance, many experienced men who examined the patient, were equally deceived with the operator.

LONDON UNIVERSITY EXAMINATIONS.

To the Editor of the Medical Gazette.

Sir,

In the leading article of your last number you object to so many subjects being required by the preliminary examination in Arts, *before* a student who wishes to take the degree of M.D. in the University of London can begin his medical education; and that from the "heterogeneous and irrelevant subjects," every art and science being insisted on but those that are medical, "such a plan cannot be carried into effect." Permit me to say that at least as much, perhaps something more, is required of every one who takes the ame degree at Paris; and that the plan works very well, at least it did ten years ago, to my knowledge. There each student *must* take a Bachelor's degree in letters and in sciences. The examination for the first includes classics, rhetoric, ancient and modern geography, ancient and modern history, and that of the middle ages, logic, metaphysics, and moral philosophy. That for the degree in sciences comprehends arithmetic, algebra, plane geometry, physique or natural philosophy, in which is required a competent knowledge of the properties of bodies, gravity, acoustics, optics, hydrostatics, pneumatics, heat, electricity, and magnetism; inorganic, vegetable, and animal chemistry, and lastly botany, including organography, physiology, and classifications, both sexual and natural.

In spite of this, however, great numbers take the degree of M.D., though it is true many are unsuccessful, especially for the degree in sciences, owing to the strictness of the examinations.

I am not surprised that you, in common with many others of all parties, should have advocated the establishment of a body with the power of granting degrees in this immense town, which possesses so many advantages as a school of practical medicine, from its many large and noble hospitals, and numerous dispensaries, where disease may be seen in all its forms. Although you designate the newly-established university at one time as democratic, and at another as aristocratic, it does not appear to me to have any political character at all, except, perhaps, its being too dependent upon the Secretary of State, whether whig or tory, for the time being; and I think it a pity that you should endeavour to treat it on political grounds. The charter was granted by the Crown, in compliance with an address of the House of Commons; and in a manner which I believe rather disappointed what you think the "favourite College," and so far from its "being made a leading poin- in the legislation of the Senate to assis- various individuals connected with 'University College,' or that "the examiners will adapt themselves to a peculiar though small class of young men, the pupils of Gower Street College," the Senate have, as it appears to me, endeavoured to be strictly impartial. Indeed, with the Bishop of Chichester, as one of the Senate, who for so many years was the principal of King's College, it would not be very likely that any favouritism should be shewn to its rival establishment, which I have heard has been the complaining party. It is true that these two only are mentioned in the charter, because they were the only two schools at that time sufficiently organized; but if time is allowed to mature the plans, other medical schools, especially those attached to large hospitals, must be recognized; and I have no doubt that these schools will alter or extend their modes of teaching, to adapt them to the regulations of the University, just as they have already done in

various instances, to comply with the changes in education demanded by the College of Surgeons and the Apothecaries' Company.

As to the rivalry with Oxford and Cambridge, and the fear you entertain lest these students of medicine should be equal at the outset to the Bachelors of Arts in those universities, I cannot think that any members of those time-honoured seats of learning will view with jealousy the advancement of science and litarature to which they themselves for so many ages have so largely contributed, or to the rewarding them by degrees in the capital of this empire, the only one in Europe hitherto without that power; nor can any reasonable objection be made to adding to the sound classical and mathematical education required in those universities, a knowledge of something modern, such as geography*, history, or languages, an addition which in all probability will sooner or later be made to the system of education at present pursued on the classic banks of the Cam and the Isis. It is well known that in compliance with the call of the public, such additions to mere Latin and Greek have been made, and are making, at most of the public schools.

There has been exhibited a good deal of impatience, and perhaps more ignorance, upon this subject. One of your correspondents, for instance (see GAZETTE for 29th September last), knowing a little, presumed more, and then jumped to the conclusion, that as there are no ostensible funds, there can be no exhibitions or scholarships at the new University; the fact being, as I am informed, that the Senate have a *carte blanche* in that respect. and the doubted scholarships have been now, and were then, regularly announced, at least for the degree in arts.

You object to the classical examinations not being in Celsus, or Aretæus and Hippocrates. Recollect the time and age at which these examinations are to take place—when the young men have just left school, and are only about to *begin* their medical studies. How can they be supposed to know any thing of the medical terms with which these authors abound, and what schools could teach them? The same regulations which you have so fallen foul upon have, it is well known, been sent round to a large number of the lecturers and hospital officers of London and elsewhere, to elicit their sentiments; and, without being a member of the Senate, I am informed that the discrepancy of their sentiments with yours, and with each other, is most amusing. Like the old man in the fable, the senate will find it impossble to please every body; still, if some forbearance be shewn, there is little doubt but that the University will work beneficially when in full operation. Even at the time I am writing, a much larger number than was expected so early are being examined for their matriculation in arts alone. Relying upon your impartiality for inserting this,

Your obedient servant,

LAWSON CAPE, M.D.

4, Princes Street, Hanover Square,
November 5, 1838.

[The *professed* demands of knowledge in all these subjects are far less than the *actual*. The French students are as ignorant of every thing but the subjects immediately connected with their profession as any class of young men can be supposed to be. They are the last whom it would be desirable to make those of the London University imitate.—ED. GAZ.]

To the Editor of the Medical Gazette.

SIR,

IN your leading article of last week, on London University Degrees, you have certainly fallen into an error, which it is desirable to set right, as your observations would be much to the point, were the premises upon which they are founded correct. You have assumed that candidates for the degree of Doctor, who have been five years in practice, are only to be examined upon subjects immediately connected with practice; but you omit to state that the candidate must *first take the degree of Bachelor of Medicine*, for which he is to be subjected to an examination in Celsus, Heberden's Commentaries, the various branches of Natural Philosophy, Anatomy, Physiology, Surgery, Chemistry, Medical Jurisprudence, Midwifery, the Diseases of Women and Children, Materia Medica, Therapeutics, Pathological Anatomy, and Practical Medicine. The aspiring practitioner will, therefore, be grieviously disappointed if he expects to graduate on the easy terms that you have represented. He will have to *get up* much that he has forgotten, and which have proved of no service to him in practice. *Cum quibusdam aliis.*

Your obedient servant,

B.

November 17, 1838.

[We have thus the misfortune of appearing to one correspondent to have *over*-rated, and to another to have *under*-rated, the nature and extent of the examination.—ED. GAZ.]

* Head, in his amusing "Bubbles," says, "In after-life I entered a river of America, more than five times as broad as from Dover to Calais; and with respect to the Ilissus, which had received in my mind such distorted importance, I will only say, that I have repeatedly walked across it in about twenty seconds, without wetting my ankles!"

BOTANICAL PRIZES.

To the Editor of the Medical Gazette.

Sir,

From the full and minute information which you supply on all matters interesting to the profession, and still more from your having exclusively all intelligence connected with Apothecaries' Hall, I presume it will not be an unacceptable communication if I forward you the names of the three young gentlemen who obtained the botanical prizes on the 9th of this month.

1st. Mr. Raper (Univer. Col.), the gold medal.

2nd. Mr. Robert P. Dodd (King's Col.), the silver medal, and 5 vols. books.

3rd. Mr. Boughton Kingdon (King's Col.), the books (5 vols.)

The books were, De Candolle's two works—*Organographie Végétale*, 2 vols., and *Physiologie Végétale*, 3 vols.

Mr. Ward, of Wellclose Square, was the examiner.

I am induced to trouble you with this note, owing to the circumstance that you did not publish the names of the botanical prizemen last year, although it had previously been your practice to do so.

I am, sir,
Your obedient servant,
Philobotanicus.

[We did not publish the names last year, because they were not transmitted to us.—Ed. Gaz.]

ON DIABETIC BLOOD.

By G. O. Rees, M.D. F.G.S &c.*

The experiments of some of the most careful and experienced chemists have failed to detect sugar in the blood of diabetic patients; and up to a very recent date it was supposed that the serum was free from contamination, even in the most virulent and lengtheued cases of diabetes. Some late experiments, made by Mr. M'Grigor, of Glasgow, seem to shew that sugar is present, not only in the blood and urine, but likewise in several secretions and excretions. The reactions obtained by that gentleman certainly rendered it very probable that sugar was present; but I am not aware that it has ever yet been separated, in its characteristic form, from the serum of diabetic blood; except by Ambrosiani, who relates a method by which he succeeded in extracting it in a crystallizable state. His process is as follows:—The blood is to be diluted with water; and boiled, in order to separate as much as possible of the albumen and hæmatosine: the clear liquor is then filtered away, and precipitated by di-acetate of lead. The excess of lead is to be removed by a stream of sulphuretted hydrogen gas; and the precipitate being allowed to settle, the liquor is to be poured off, cleared by being boiled with white of egg, filtered, and evaporated to the consistence of a syrup: this, on being allowed to remain exposed to the air for some weeks, deposits crystals of diabetic sugar. By this process Ambrosiani asserts that he has succeeded in extracting sugar: and though I have not followed his process, yet I am inclined to consider it calculated to afford a satisfactory result; for I have observed that the presence of urea in the blood of diabetic patients interferes with the demonstration of the sugar; and the performance of this process would tend greatly to destroy that principle.

The method I have adoped will yield sugar of considerable purity; though it will not enable us to determine, with precision, the weight of the principle. The process is as follows:—

The mass of blood* is to be evaporated to dryness, over a water-bath; the dried mass to be comminuted, and digested for several hours in boiling water: the aqueous solution is to be filtered off, evaporated to dryness, and the dried residuum digested in alcohol of sp. gr. 0·825: the alcoholic solution so formed is to be filtered, or carefully poured off, evaporated to dryness, and the dry mass treated several times with rectified ether, which dissolves out urea, and also some fatty matter; leaving behind the sugar, in admixture with osmazome and chloride of sodium; this mass, on being dissolved in alcohol, and the solution allowed to evaporate spontaneously in a flat glass dish, affords mixed crystals of alkaline chloride and diabetic sugar; which are easily distinguishable from each other, and allow of being separated mechanically, by shaking them up in alcohol, when the chloride sinks; and the sugar, being principally collected above, may be removed, for examination, by careful use of the spatula: the alcohol must not, of course, be allowed to remain long in contact with the crystals, as it would re-dissolve them. It is a matter of surprise to me, that sugar has not been long ago detected in the blood of diabetic patients, though not separated from it; for the alcoholic extract of the serum, when mixed with water, will, after a few days, give off carbonic acid; which, in addition to the sweetish taste, and, I may add, syrupy smell of the evaporated alcoholic extract, is a sufficient evidence of the presence of sugar. I subjoin the analysis of 1000 grains of diabetic serum, obtained for me by

* From Guy's Hospital Reports, No. 7.

* 12 ounces were used in these experiments.

the kindness of Dr. Bright. The sp. gr. of this patient's urine was 1048; and the contents of the serum as follows:—

Water	908·50
Albumen (yielding traces of phosphate of lime and oxide of iron, on incineration)	80·35
Fatty matters	0·95
Diabetic sugar	1·80
Animal extractive, soluble in alcohol, urea	2·20
Albuminate of soda	0·80
Alkaline chloride, with traces of phosphate Alkaline carbonate, and trace of sulphate, the results of incineration	4·40
Loss	1·00
	1000·00

I should wish the proportion of diabetic sugar given here to be considered merely in the light of a close approximation; as it is impossible to separate it completely from impurity; and, moreover, the loss sustained by it during manipulation, which must be considerable, does not admit of estimation.

The alkaline salts contained a trace of an earthy phosphate in admixture; which is a curious fact, to which I have alluded in my paper on the analysis of the liquor amnii.

It will be observed, on comparing this analysis with that of the serum of healthy blood, that we have here a great excess of matters soluble in alcohol, while the albuminate of soda is rather less than in health. The alkaline salts are also in very small proportion, being only 4·40 gr. in 1000 grains of serum, while in health they amount to from 7 to 8 grains per 1000.

I attribute my success in obtaining sugar, in its characteristic form, from diabetic blood, principally to the use of ether, which extracts from it the urea and fatty matter. I find that the ether of the shops of sp. gr. 0·754, which of course contains some alcohol in its composition, is an active solvent of urea, while it exerts no action on the diabetic sugar.

CORONERS' NEGLECT OF MEDICAL EVIDENCE.

To the Editor of the Medical Gazette.

Sir,

The injustice to medical practitioners generally, in not being called upon oftener to give their evidence in a coroner's court, is sufficient to make them loudly complain, as shewn by Mr. Semple's letter in your last number. Within the last two years many inquests have been holden in this neighbourhood, without medical evidence. The cases to which I refer were accidents to the body generally, more particularly those of the head, extensive burns, and sudden deaths. The reason assigned by the coroner is, that where the statement of the witnesses is clear, explaining the *moral* cause of death, the jury are satisfied without further inquiry; any trace of the *physical* cause is not called for; therefore a verdict of "accidental death" is returned, and the business of the court soon ended.

I could bring forward instances where the assemblage of coroner and jurymen has been a complete farce, but will content myself with relating only one:—

On Saturday, October 20th, I was sent for to a neighbouring village, to see a boy about seven years' old, who had been knocked down by the sails of a windmill. I found him quite insensible, with stertorous breathing, pulse scarcely perceptible, pupils dilated. An extensive fracture, with depression, was plainly felt over the lower portion of the left parietal bone; considerable blood issued from the ear, nose, and mouth. The only wound of the scalp was a small opening in the centre, large enough to admit the end of a probe. He died in four hours after the accident.

Now, sir, I staid at home on the day of the inquest, expecting to be summoned; but to my surprise no evidence was thought necessary. Calling at the house next day, I asked permission for a post-mortem examination; this was refused, not being required.

Every one must allow that Mr. Wakley deserves the thanks of the profession for his exertions in procuring the Act of 1836. But as Mr. Semple observes, "unless a compulsory clause is added, respecting medical men, the law is almost a dead letter."

Trusting that you will give publicity to this note, I remain, sir,

Your obedient servant,

John Collier,

Member of the Royal College of Surgeons.

Towcester, Nov. 9th, 1838.

To the Editor of the Medical Gazette.

Sir,

The appearance of Mr. Semple's letter, in the Gazette of the 3d inst., has given me considerable satisfaction, as it goes to prove that the evil it complains of is not confined to the provinces, as I had hoped, and the more extensive and glaring the evil, the nearer we may be approaching to a remedy.

Prior to the last enactment, which has raised the coroner's fees, and charged him

with the payment of witnesses and other expenses attendant on inquests, which are repaid him at each quarter session of the county, medical witnesses were paid by the overseer; and in this county, whether that be Cornwall or Cumberland, it matters not, we had no difficulty in obtaining our fees; but as soon as the last Act came into operation, coroners have availed themselves of every shift to evade calling medical witnesses, reasoning thus:—"If we call medical men, we must pay them, and suffer an outlay, (for which we gain no advantage,) till the magistrates shall have passed our accounts; it is, therefore, our interest to keep our money in our pockets, so, *valete medici*:" but such reasoning looks a little like dishonesty, because these gentlemen are paid an increase of salary, to remunerate them for the short time they advance their money; all tampering with, and evading the demands of, justice are calculated to bring a useful institution into contempt, and the community will not be slow in concluding that they pay to keep up, as Mr. Semple expresses it, "an expensive farce." I go no further, and submit that the coroner is, by his oath, bound *to get at*, as far as in him lies, the truth, the *whole truth*, and nothing but the truth, as the witnesses are to *speak* the same, and that if he suffer any thing to be kept back, he may be considered, in a moral point of view, guilty of ——

I am, sir,

Your obedient servant,

CHARLES HOPKINS.

Nov. 10, 1838.

STATISTICS OF THE COBURG LYING-IN SOCIETY OF CHELTENHAM.

To the Editor of the Medical Gazette.

SIR,

HAVING had, during the past year, the surgical superintendence of the Coburg Lying-in Society of this town, I have taken the trouble to register various facts, which have supplied me with materials for a statistical account, which may not be altogether devoid of interest. If you will admit a communication of this kind in your columns, I shall feel obliged by its insertion.

The Coburg Society was instituted immediately after the death of the Princess Charlotte, and holds its annual meetings on the sixth day of November. Its objects are, to furnish obstetric aid to indigent married women, and afford them relief by money, linen, &c. during the month. It is a rule, that "No woman is to receive relief from this charity for her first child, except in cases of extreme distress."

From November 6, 1837, to November 6, 1838, 216 women were delivered, and no death occurred either during the labour or the month succeeding. No case requiring embryotomy, and no placental presentation, occurred. The forceps was applied once in a case of impaction. The vectis was never used, nor a single dose of ergot administered. There were two presentations of the superior extremity at full gestation, and two about the sixth month.

In 167 cases the sex was noted:—Males, 87; females, 80.

In 193 cases inquiry was made as to the number of times the individual had been pregnant (early cases of abortion not being taken into the account.)

Of these 1 was the 1st pregnancy.

15	2d.
35	3d.
28	4th.
18	5th.
29	6th.
28	7th.
9	8th.
10	9th.
10	10th.
5	11th.
2	12th.
1	14th.
1	15th.
1	16th.

In 184 cases the age was noted down, and they all ranged between 20 and 45 inclusive.

2 cases occurred at the age of	20
3	21
5	22
2	23
6	24
7	25
11	26
11	27
15	28
11	29
18	30
7	31
9	32
12	33
7	34
10	35
6	36
8	37
11	38
6	39
7	40
2	41
3	42
3	43
1	44
1	45

The mistakes which women occasionally make as to the period of their pregnancy, had excited some surprise, and led me in 181 cases to remark the times of *expected* and *actual* delivery at the full time.

42	passed their expected time by about	1 week.
32	.....	2 weeks.
22	.....	3 weeks.
25	.....	4 weeks.
12	.....	5 weeks.
15	.....	6 weeks.
5	.....	7 weeks.
4	.....	8 weeks.
2	.....	9 weeks.
1	.....	10 weeks.
13	did not arrive at the expected time by about	1 week.
3	.....	2 weeks.
3	.....	3 weeks.
2	.....	4 weeks.

The infrequency of deaths among parturient females in this place is worthy of remark. I have been surgeon to this society for two years, and no death has occurred within this period; and the same may be said of two similar small institutions in this place, which together relieve about 100 annually. I believe this is mainly owing to the healthy condition of the lower classes, who are the immediate descendants of agricultural labourers, are employed in no manufactories, and among whom the extreme of poverty and destitution is mitigated, if not prevented, by the munificence of the wealthy.

I am, sir,

Your obedient servant,

HENRY COLES.

Cheltenham, Nov. 13, 1838.

CRYSTALS IN THE HUMAN INTESTINES.

THE individual in whom they occurred was a male, aged about forty, who died of pleuro-pneumonia and gastritis, having been admitted into hospital only a few days previous. On examining the intestinal canal, the contents of the colon appeared of a lighter colour than usual, and more fluid. I observed some very small bodies suspended in the fæces, which on removing and rubbing between my fingers proved to be solids; on drying and examining them with a lens, I found that they were perfectly regular crystals, (although somewhat less than the third of a line in length:) they were in considerable numbers, but so very minute that it required a long time and a good deal of trouble to separate a sufficient number to allow of a chemical examination.

The colour of these crystals was white, some however were yellowish on the surface, being stained by the contents of the colon. Their figure was a slender four-sided prism, terminated by four-sided pyramids, and the edges and angles were exceedingly perfect. On analysis, Dr. Apjohn found them to be composed of the ammoniaco-magnesian phosphate, or the triple phosphate, as it is commonly called. The colon was the only part of the intestinal tract in which I succeeded in detecting them, and there existed no ulceration in any part of the mucous membrane.

The four-sided prism does not appear to be the most common figure of the crystals of the triple phosphate; when they occur in the urinary bladder they are usually short three-sided prisms, terminated by three or six-sided pyramids.

The composition of the crystals found by Professor Schoenlein was very different from these. Müller does not mention the composition of those which fell under his observation; but as they were on one occasion long four-sided prisms it is not likely that they consisted of the ammoniaco-magnesian phosphate. This compound, too, seems to form the principal ingredient in most of the concretions which have been examined from the intestines of quadrupeds, in whom they are not very uncommon. Fourcroy and Vauquelin found some from the horse to be composed of the triple phosphate; and Dr. Marcet says, that all the specimens which he had an opportunity of examining consisted entirely of the same salt.

The concretions to which I have alluded as having been met with in the human intestines in these countries (which are described by Dr. Monro, in his Morbid Anatomy), have been noticed only in Scotland, and consisted almost altogether of the beards of the oat (which forms so prominent a part of the food of the lower orders in that part of the United Kingdom), matted together and cemented by animal matter, with or without a central nucleus; some of these alvine concretions, however, had a coating of crystals of the triple phosphate, others of phosphate of lime mixed with animal matter.

In a recent number of the Dublin Medical Journal, Dr. Harrison has given an account of some minute prismatic crystals, detected by him on the peritoneum of subjects brought to the dissecting-room, which, on analysis by Dr. Apjohn, was found to be composed of the ammoniaco-magnesian phosphate.

But I believe the case which I have given, is the first in which separate and regular crystals have been noticed in these countries, in the contents of the human intestines. And though much importance does not attach to an individual case, yet, as far as a single one can, it will help to prove that Dr. Schoenlein's assertion is

too sweeping, viz., "that the presence of these bodies in the intestinal discharge may be considered as an important diagnostic mark of typhus fever."—*Dublin Journal of Medical Science*, November 1838.

ON THE RESPIRATION AND DEGLUTITION OF THE BOA CONSTRICTOR.

Dr. Robertson, on Monday, Sept. 17th, presented to the Institute some new observations on the respiration and deglutition of the boa constrictors, at present exhibiting at Paris. These enormous serpents swallow several large live fowls, one after the other, at a meal. During the repast, which lasts half an hour or more, the throat continues greatly distended, and all communication between the nostrils (through which the reptile usually breathes) and the lungs is completely shut out; but, by an admirable provision of nature, the creature protrudes the orifice of its windpipe, from between the branches of the lower jaw, quite out of its mouth, to the extent of an inch, and at least three inches beyond its usual situation. The throat being distended to its utmost stretch by the fowl or rabbit in the œsophagus, the glottis is seen protruding between the branches of the lower jaw and the skin of the throat; and the protrusion is greater in proportion as the object in the act of being swallowed is of a large size. Every half minute, more or less, the orifice of the windpipe is opened to nearly half an inch in diameter, and a gush of air, like that from a pair of bellows, issues out; and, fresh air being immediately afterwards taken in, the glottis is again closed by the sphincter muscles till the next expiration, and so on alternately.—*Galignani's Messenger.*

OMNIUM GATHERUM.

The following extraordinary jumble appears as one continuous article in a recent number of the Boston Medical Journal:—

"*Medical Miscellany.*—The cholera has re-appeared at Naples.—Of the 80,000 Russians who marched into Circassia, a few only have returned, and they were so severely attacked with ophthalmia that most of them are blind and rendered incapable of service.—A catalogue of the Louisville Medical Institute has been received, shewing one hundred students, their first term.—Dr. Bartlett's address before the Phrenological Society is greatly admired.—Dr. Rockwell, Health Officer of New York, has been nominated to the Senate, notwithstanding some have said he lacks official capacity. He is unquestionably a first-rate man for the place, as his past services testify.—At the last accounts, Dr. Warren, of Boston, now travelling in Europe, was on his way to Italy. —The Vermont Mercury says there have been only four *deaths* by smallpox in Woodstock. We do not see how this fact in any manner contradicts the statements in the letter from Woodstock, inserted in this journal for January 17th, although apparently published for that purpose."

LITERARY INTELLIGENCE.

The Elements of Materia Medica; comprehending the Natural History, Preparation, Properties, Composition, Effects, and Uses of Medicines. Part I. By Jonathan Pereira, F.R.S. and L.S. &c. &c. —*just published.*

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, November 22.

William Minton Beddoes, Cheney Longville, Salop.—William Thurnall, Duxford, near Cambridge.—Edward Webster, Weldon North.—George Henry Jackson, London.—Thomas Land, Leeds.—Ralph Thomas Cappur, Nantwich, Cheshire.—John Scott, Sunderland,—Charles Taylor, London.—Charles Frederick Pollard.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Nov.* 20, 1838.

Abscess	1	Gout	1
Age and Debility	31	Heart, diseased	2
Apoplexy	3	Hooping Cough	1
Asthma	6	Inflammation	16
Cancer	1	Bowels & Stomach	3
Childbirth	4	Lungs and Pleura	3
Consumption	37	Measles	4
Convulsions	14	Miscarriage	1
Dentition or Teething	4	Small-pox	11
Dropsy	8	Spasms	1
Dropsy in the Brain	2	Stone & Gravel	1
Erysipelas	2	Unknown Causes	62
Fever	8		
Fever, Scarlet	8	Casualties	4
Fever, Typhus	2		

Increase of Burials, as compared with the preceding week . . . 6

METEOROLOGICAL JOURNAL.

November.	Thermometer.	Barometer.
Thursday . 15	from 38·5 to 42	29·88 to 29·77
Friday . . 16	40 48	29·65 29·64
Saturday . 17	34 46	29·64 29·60
Sunday . . 18	39 47	29 57 29·55
Monday . . 19	38 41	29·53 29 50
Tuesday . . 20	35 41	29·56 29·56
Wednesday 21	35 41	29·40 29·28

Wind, N.E.

Except the afternoons of the 16th and following day, cloudy, with frequent showers of rain.

Rain fallen, 1 inch and ·025 of an inch.

Notice.—The second drawing of the "jaw" came too late for our purpose.

Erratum.—The initials to the "Gleanings in Italy," in our last, ought to have been M. B. G., *not* M. B. S.

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THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, DECEMBER 1, 1838.

LECTURES ON SURGERY,

DELIVERED AT ST. THOMAS'S HOSPITAL,

BY THE LATE MR. CLINE.

(Concluded.)

LECTURE X.

Circumstances requiring Amputation—Amputation below the Knee—above the Knee—of the Wrist—of the Os Humeri—of the Shoulder-joint—Bandages for the Head and Trunk—Bandages for the Extremities.

Circumstances requiring amputation.—Before we enter upon the amputations of different parts of the body, we shall say something of the diseases requiring the operation, and the state of the constitution in which it is most favourably performed.

Sometimes there is necessity to remove a part, from being in an incurable and diseased state, to put a stop to inconveniences arising therefrom. The operation is often required on the smaller joints when the life is not in danger. Also, injuries suddenly inflicted on parts, as compound fractures from common accidents, or sometimes from gun-shot wounds, in either of which the operation is sometimes required almost immediately. Sometimes there is a great difficulty of determining whether the operation should be performed or not. When there is a great destruction of parts, without doubt the operation should be performed immediately, as it will give the patient a better chance of recovery. It is the same with any of the larger joints. In exposure of the cavity of large joints, as the knee and ankle, the danger which would probably arise from such accidents would be greater than from amputation of the limb, though the patient might be in perfect health. The patient would probably die before suppuration could take place; so much would the constitution be deranged by the violence of the symptoms. When considerable injury has happened, though we know from experience what the progress of the disease will be, a good deal of mischief will often be prevented by the immediate operation. It is found, from experience, that in a state of good health, and when the constitution is strong, it is not the most favourable time for performing any capital operation, more especially amputation. When a large part is to be removed, the violence done to such a constitution is greater than to another which is previously exhausted by disease; therefore, amputations performed immediately after accidents on healthy subjects do not succeed so frequently as in those debilitated by long disease. Thus, in cases of diseased joints or diseased bones, very few die in consequence of the operation, when compared with those in consequence of compound fractures, or gun-shot wounds, where the operation is almost immediately performed. In some cases the operation will be less dangerous than for the injured parts to remain; but it is only in those cases where the mischief is exceedingly great that we should operate immediately. It is almost impossible to point out the precise time at which the operation should be performed—when it should be performed immediately, or when it should be delayed for some time: this is to be left to the discretion of the surgeon, and is only to be acquired by long experience.

Mortification is also spoken of as a complaint requiring the operation immediately, even when independent of any injury, which is not unfrequent in old people. There was an idea formerly that the mortification was spread by the dead part being in contact with the living; therefore it used to be the practice as soon as mortification had taken place to remove all the dead part. From the bad success

of operations performed in this way, practitioners afterwards waited till a more favourable opportunity arrived, when the mortification ceased to spread, which was found to be the more advantageous, and oftener attended with success. When we consider the manner in which mortification takes place, the reason will be obvious. It is always preceded by inflammation, and it much oftener arises in those constitutions which are weak than in others. It rarely happens to one in good health, though the inflammation is very violent. It is particularly the case with patients who have general dropsy, or who are anasarcous: small incisions through the skin very frequently, from the slight inflammation which follows, are attended with mortification of the part. Mortification seems to arise from such increased action taking place as the part is incapable of supporting; this must sooner happen in a part that is weak than a part that is strong. Under extreme violence, in healthy constitutions, when the inflammation has been exceedingly great, mortifications now and then happen; however, this is but rare. As inflammation is the cause of mortification, it must be increased by whatever produces it; therefore, in such a state, the performing the operation would be most unfavourable for the patient. When, instead of performing this operation, the surgeon waits till a favourable change takes place in the constitution (which might partly be effected by proper regimen and medicine), it may then become capable of sustaining the inflammation which is produced, and mortification be thus prevented. A part that is mortified will completely separate if left to itself; even a dead portion of bone will separate in some weeks; therefore it will be better not to operate at all. Of this I have known several instances where mortification has extended from the feet upwards to a little below the knee, where, in the space of five or six weeks, the dead parts have completely separated, and the patients have done well. By thus letting parts separate of themselves, a very painful operation is avoided, as well as the consequent inflammation which must arise from the operation. The danger of this operation, besides being proportioned to the constitution, is also proportioned to the size of the part to be removed. Thus the loss of a hand is attended with less violence to the constitution than the loss of a foot, or an arm less than a leg. When the part to be removed is not large, and the patient has been previously lowered by disease, there are hopes of success. The reduction of the constitution should, however, be limited, for the patient may become so weak as to make the operation very dangerous, more especially if there should happen any unfavourable hæmorrhage, as the loss of even eight or ten ounces of blood; therefore we should not suffer the patient to go on too great a length of time. When they have been a good deal weakened by disease, the alteration which takes place almost immediately on the diseased parts being removed, is surprising, which shews that the whole of the complaint arose from the constitution sympathizing with the diseased part.

Those parts are most favourable for operations where the most muscles are situated, being very vascular, therefore more favourable for healing. A joint is always unfavourable, as cartilage will not granulate, and ligament always granulates very unfavourably: the proportionate number of vessels being but few, therefore we avoid amputation in these situations. Besides which, inflammation arising in large joints produces very considerable violence to the constitution; but in small joints amputation may be performed without any particular inconvenience, for you may easily preserve skin enough to be extended over the surface; union will take place; and where the joint is small it does not injure the constitution. In one joint rather large—viz. that of the wrist—the operation has been often performed with success: that being formed by the radius and superior part of the metatarsal bones, you may leave integuments enough to come over the extremities of the bones. In the toes and fingers, amputation at the joint is easier than sawing through the bone. In all amputations we should endeavour to save as much skin as possible, to cover the extremity of the part. This is a great improvement; it was formerly the practice to cut directly through the part; the whole breadth of the stump was exposed, consequently greater inflammation arose, and more violent effects to the constitution: it was also very unfavourable for healing. The stump, under these circumstances, being often three or four months in healing, and after it has healed the cicatrix is very liable to ulcerate.

Mr. Cheselden first made the improvement of *double incision*, whereby a good deal of skin was brought over the large surface, but not enough left to cover the extremity. Another mode of operating was to leave a *flap*; in which, I believe, there is greater violence done to the constitution. A piece of lint was interposed, and both surfaces allowed to suppurate, which was unfavourable. But since that, another considerable improvement has been made by Mr. Allanson, of Liverpool—

viz. extending the double incision higher up than usual, carrying it round the cellular membrane and muscles, so as to draw it further from the bone; and, instead of interposing any lint between the extremities, laying it over the surface, which makes a larger portion adhere by the first intention; and the more it adheres in this way, the less is the danger of symptomatic fever, and there is scarcely any cicatrix. This has been very generally adopted, and found very successful. The operation, however, will be more successful in some states of the constitution than in others. When that is so far in a healthy state as to be capable of producing union by the first intention, there is little symptomatic fever, union is soon produced, and the stump healed in a short time; but this is very far from being the case in some scrofulous and scorbutic constitutions. In this mode of operating, under some circumstances, accumulations of matter take place between the skin and extremity of the stump, so as to be unfavourably lodged, through the skin forming sinuses very unfavourable for healing; this will happen sometimes, though very rarely. If we consider the operation in a general point of view, it is certainly more favourable than any of the former, therefore should be generally adopted. Before we begin this operation the vessels should be restrained from bleeding, for which we have tourniquets, which are variously constructed; they may be either a simple ligature with a stick, or a screw tourniquet. The screw tourniquet is very convenient, for being once fixed, it remains of the same tightness, without the necessity of holding it; therefore particularly useful where a number of assistants are not at hand. But in private practice, where you have assistants enough, the common stick tourniquet is more convenient, more readily fixed on the part, and more readily tightened. In tightening and slackening the screw tourniquet several turns are necessary; hence an unnecessary quantity of blood is lost.

In the arm, the middle of the os humeri is most convenient for applying the tourniquet; the pressure being made on the inner side of the biceps muscle, where the artery is descending. If you are under the necessity of compressing it higher up, it should be under the tendon of the pectoralis major; or if you amputate at the shoulder-joint, you should place it under the clavicle, on the first rib. During the time of pressure the shoulder should be lowered a little to bring the clavicle downward, to have a more perfect command of the vessel.

In the lower extremity the pressure should be made on the inner side of the thigh, just above the perforation of the tendon of the abductor muscle, where the artery is situated close upon the bone. If amputation is necessary higher up, then the pressure should be made on the pubes, where it is passing under Poupart's ligament.

The instruments required in this operation are generally in one case. A large knife to amputate the lower limbs, which may be either straight or curved: if much bent it is inconvenient, as all instruments cut by drawing them along the surface, not by making pressure. The sharpest instrument cuts on the same principle as a saw. If slightly bent it is convenient, because it is applied to a larger surface; but a straight knife will cut through quicker. If the limb is sound, and you require a small knife, the bending of it would be rather inconvenient; therefore a straight knife is preferable. A catlin is a small knife to be introduced between the bones, to divide the interosseous ligament, and those muscles and integuments which you have not perfect command of in the circular incision. A saw should consist of a blade set in a frame, which may be tightened by a screw. If the blade is not kept firmly fixed, the teeth are continually hitching on the bone, and you cannot saw so as to form a smooth surface; the saw is every now and then stopped. It should be always kept unscrewed.

The tenant saw is of a better construction than the former, having a stronger back, which keeps the blade perfectly fixed. It should be exceedingly well tempered, the steel well hardened; as it is to cut through the solid substance of bone, the teeth are very easily turned: also, the teeth should be very small. When there are large interstices between the teeth, it cuts very roughly through the bone, and when nearly through generally splinters it. When such a splinter happens it should be pinched off, otherwise it will very much irritate the soft parts which are brought over the ends of the bone.

The metacarpal saw, the blade of which is easily introduced between the bones, is also made with a screw to tighten it before it is used. We have also a tenaculum and needles.

In amputation of the toes it is convenient to have an assistant holding the other toes apart, by a piece of tape carried round them: here we may amputate at the joint. For this purpose we first make the circular incision a little below, and not into the joint, by carrying the knife laterally, not only on account of the small process of bone going over, but the greater firmness of ligament laterally than

superiorly and inferiorly. Sometimes a part of the metatarsal bones is diseased, so as to require removal. This may be done by making an incision above and below, saving the integuments completely to cover the bone. Here it is improper to take it off at the joint, because the basis of the metatarsal bones forms the common cavity. We make an incision above, and carry it on one side the toe. Let the incision be extended to the same part on the other side of the toe, down to the under part of the bone, dividing the flexor and extensor tendons; then introduce the saw between the bones. The integuments above and below not being removed, may be brought in contact by slips of plaster. The wound soon heals, with very little deformity. When the tarsal bones become diseased, and an operation is necessary, it will be proper to remove the foot, or greater part of it; for the tarsal bones are very complicated, and by removing one you expose a large surface, so that there would be little probability of saving the part. If you could take off the whole of the foot, leaving the os calcis and astragalus in a sound state, it would be very convenient. Supposing the tarsal bones situated forward were diseased, a circular incision might be carried round, leaving sufficient integuments between the os naviculare and cuboides.

The pollex pedis should be cautiously amputated, being a chief support to the foot: hence the patient always halts afterwards.

The ankle-joint is too large to think of amputating there; but there is an operation which has been performed by O'Halloran and White and some others, a little above the ankle. This has been very much recommended by some writers, and having an artificial foot, and preserving the joint of the knee; but it requires a great deal of nicety in the construction of such an instrument; and though it may be constructed so well that patients may walk on it for some time, yet I doubt whether it can be so well constructed for a man who is obliged to bear the pressure on so small a surface, and he would be in a much more comfortable state if the limb were amputated higher up. Also, a stump at this part is more unfavourable for healing than higher up, where there is more muscular substance; and the lower part seems to excite greater violence to the constitution.

I have had an opportunity of seeing one of Mr. White's patients, which was a man not under the necessity of being much on his limbs. He had an instrument made according to Mr. White's directions, but he preferred the pressure on the knee to the artificial foot.

Amputation below the knee.—The surgeon should be placed between the patient's legs, as being more favourable to saw through both bones at once. The length of the stump in the adult should be about a hand's breadth below the knee. To make it of that length the incision should be begun about two inches below where you intend to cut through the bone; this will be varied according to the diameter of the limb; as that is large, you should allow a greater length of integuments. We first make a circular incision through the integuments, whether at once or twice being very immaterial. Having done this, an assistant should draw up the integuments while you separate the cellular membrane. The adhesion is greatest at the bottom. The integuments should be still kept drawn up. Next we cut through the loose muscles, in doing which the knife should be carried a little obliquely upwards: the muscles between the bones to be divided by the catlin. Laying the saw directly on both bones, we proceed sawing very slowly and lightly when nearly through the bone, to prevent its being splintered; then secure as many arteries as possible, without slackening the tourniquet; here there are generally three, the anterior and posterior tibial, and interosseal: afterwards draw the integuments over the edges near together by adhesive plaster, to unite by the first intention. Mr. Allanson directs the edges to be brought perpendicularly, so that if union does not take place by the first intention there is a way for the discharge of matter; if made a little obliquely it will be full as well; you will have a sufficient opening, besides the advantage of having the extremities of the vessels directly opposite to the opening, so that the ligatures are readily removed, there is no sinus, and greater probability of union by the first intention, and the ligatures are drawn out in a direct line. Also, if there should arise a hæmorrhage after the operation, you may more easily get at the vessels, especially when union has been in part effected.

Amputation above the knee is easier than the former; you can more readily separate the integuments and muscles, beginning near the joint to preserve the integuments. The first incision separates the integuments, admitting of their being drawn up some way. In some parts they will adhere more than in others, as where the fascia is situated close on the skin and the extensor tendons. The next incision separates these; then you are to carry it through those muscles situated loosely on the thigh: this will give more room when the muscles are retracting. You then make an oblique incision through the re-

maining muscles, while an assistant is drawing up the integuments; you next saw through the bone, making long strokes, and not bearing hard on the saw (every surgeon should practice sawing); the integuments are to be brought together as near as possible.

Sometimes, where the patient is much reduced, the small vessels appear incapable of contracting, and we have a hæmorrhage from the whole surface; in such patients it is better to support the vessels on the extremity of the stump by a roller.

There has been an amputation at the hip-joint, but the patient died soon afterwards: this is too great a violence for the constitution to support*.

Amputation of the fingers and metacarpal bones is performed in the same manner as for the toes, &c.

Of the wrist.—In this you have only to cut through the integuments, tendons, and ligaments of the joints, beginning the incision at the basis of the metacarpal bones, leaving sufficient integuments to cover the joint, about an inch below the styloid process of the radius; then the integuments being drawn backward, and the tendons divided, the incision is to be made at the extremity of the radius. The most convenient part to cut into the joint will be below the styloid process of the radius; having carried the knife through at that part, getting into the joint, you can easily separate the hand.

Amputation of the fore-arm is performed in the same manner as that of the leg, standing also on the same side of the limb to have command of both bones, &c.

Of the os humeri.—It will be more convenient to stand on the outside, that your left hand may be above the incision.

Of the shoulder-joint.—This is a nice operation, on account of the situation of the axillary artery; which, from its size, and being so near the heart, affords a profuse hæmorrhage; therefore it would be safest to secure this vessel in the first part of the operation. This is most safely to be done by laying the artery bare by an incision in the axilla first, just under the pectoral muscle. A plexus of nerves accompanies this artery, and it therefore requires some attention to distinguish the nerve from the vessel, which is very readily done in the living subject. Including the nerve in the ligature would be productive of extreme pain. This is an instance in which the flap operation will be more convenient than any other. We should leave enough flap to cover the wound, beginning the incision from the bottom of the deltoid muscle, extending it upwards quite to the shoulder-joint. This is done by pinching up the muscles, &c. with the left hand, and carrying the incision up to the acromion process. We next make a circular incision, which done, it is better to take the os humeri into your own possession, to have perfect command of it, and to bring it out of the articulation. A flap is to be left to cover the bone, which should be confined by adhesive plaster. Union will take place very readily provided the subject is in tolerable health, and there is no disease of the scapula. It has been performed successfully.

Bandages.—The forms of these are various, being adapted to different purposes, as well as different parts of the body. They are better if made of linen cloth that has been worn. For particular purposes they are made of cotton or flannel. The application of these, more especially when they depend upon rolling, requires a degree of dexterity. Bandages are either simple or compound—simple, when composed of one piece of linen—compound, when of several. They have various names from the parts they are applied to, and the intention they are to answer. Of simple bandages, that which is commonly used is a long slip of linen, rolled up, called a single headed roller; when rolled up at each end it is called double headed. According to their manner of application they have different names; as the *circular*, when applied immediately in circular turns; the *spiral*, when carried obliquely upward or downward, on account of the different thickness of parts. The *rampant* is when these spiral turns are much increased, so as to leave parts uncovered for the purpose of applying dressings. The *reversed* turn is when the roller is brought back again, by which we are enabled to apply the bandage with greater smoothness. For the head we have a great number of bandages, which may be varied according to circumstances and convenience; the most simple of these is by taking a handkerchief, or napkin, of which there are two sorts, called the *simple* and grand kerchief—the simple, when the handkerchief is folded triangularly, placing the longer side of the angle on the forehead, bringing the ends of the handkerchief round the occiput, where it may be tied, or if long enough brought round to the forehead. The *grand kerchief* is by folding the handkerchief in an oblong form, being one side within, about a hand's breadth of the other; the middle of which is to be placed on the summit of the head; being thus folded it makes six angles or ends, the two middle of which are to be brought under the chin, and there tied, or pinned;

* The success which has attended Mr. Guthrie's, and other cases of amputation at the hip-joint, may be considered to have established it as one of the operations of surgery.—C.

the portion which is suffered to hang down the face may be turned back on the forehead, and the two ends carried back towards the occiput, where they are to be pinned, and the two posterior ends are to be brought to the forehead, and tied or pinned. We have two bandages applied to the head, called *slings*; one with four, and the other with six heads; they are very convenient for retaining dressings, and are very cool in summer; the former is fastened to the forehead and occiput; the latter under the chin.

The uniting bandage consists of a roller, which should be two or three yards long, rolled up with a double head, and a slit in the middle, which may be applied to the head or any of the extremities.

For the eyes, we have the monoculus and binoculus, simple headed rollers about six yards in length, carried in oblique turns over the eye, round the forehead.

For the nose, a sling with four heads, made as the other slings, only with an aperture in the middle, is convenient in fractures of the os nasi.

For the upper lip, a sling with four heads is of use in the hare-lip, after the operation. Mr. Dent, of Ireland, has contrived one composed of three pieces of tape united to each other, and is intended as a substitute for pins or needles.

For the lower jaw, we have a sling, as other bandages, only as a slit for the chin, for retaining dressings.

For the shoulder we have various bandages: as the spica simplex and duplex, recommended in fractures of the clavicle — when over one shoulder, it is called simplex; when over both, duplex: that part which appears to be raised in a fractured clavicle, is, in fact, in its situation, and only appears so in consequence of the depression of the other; therefore applications to keep it down are improper. The shoulder should be carried backward, and supported so by a sling and a roller, about five yards, applied in form of a figure of 8, going first under the axilla, the shoulders being held back, then over the shoulder, and obliquely across the back and over the opposite shoulder. In children the bones are perfectly manageable by this bandage, but in the adult we can hardly make it sufficiently tight (especially in a fat person) without a permanent deformity. Mr. Haighton has contrived one for keeping the shoulders back, which consists of two pieces, each of which has a loop, through which one end of the bandage slides in; to the looped part is fixed a small strap. The arm is placed through the loop; there is a pad placed under the buckle as a defence from its pressure. Mr. Hay, of Leeds, contrived another.

For the chest we have several: the sling with four heads, also the double T bandage; another called *napkin and scapular*, consisting of one broad part which is to go round the chest, another piece fastened to it, with a slit in the middle to receive the head, which prevents its slipping down. For fractured ribs it will be better to apply a double-headed roller of flannel or calico, which is better than linen, about eight or ten yards in length, and about a hand's breadth. For umbilical or ventral herniæ, trusses should be applied for an adult, made with steel springs; in children a piece of cork, cut the size of the aperture, and dipped in sealing-wax, to give it a smooth surface, and confined by sticking-plaster.

After the operation of *paracentesis*, if the viscera want support, we apply a flannel roller 8 or 10 yards in length, which is better than linen, being softer.

A convenient bandage for the scrotum is the bag truss: the bag receives the scrotum, a strap goes round the abdomen, and two straps pass under the thighs.

There is one described for the perineum, called *knotted*, about 10 yards in length, carried alternately over each shoulder and hip, and crossing, forming a knot *in perinæo*; it was used to restrain hæmorrhage in cutting for the stone, but the vessels are too deep-seated to be thus compressed.

Application of a truss to the groin is a process in which there is a great deal of nicety to make it sit well on the part; and to have the steel so tempered as to make strong pressure and not give pain, is often very difficult to accomplish. The patient at first will be uneasy, but the pressure should not be so great as to inflame or excoriate the part. The pad should not be very broad, and should take the same degree of obliquity as Poupart's ligament. We should find the situation of the ring by feeling for the spinous process of the pubes; a little above, obliquely and outward, is the ring; still further above, is the orifice of the sac, upon which the middle and most prominent part of the pad should be placed in the common scrotal hernia. Being thus placed, and the patient desired to cough, no descent will take place. The pad should be immediately over the orifice of the sac, and the spring carried round immediately under the edge of the crista of the ileum; if lower, the glutæi muscles will displace it. If there should be that species of hernia where the sac is situated on the inner side of the epigastric artery, then it would be absolutely necessary to apply the pad on the orifice of the ring. The length of the spring should be regulated entirely by the size of the patient: it should not be long enough to extend beyond the spine; if it

does, the edge presses on the glutæi muscles, and every time they are in action will move the pad. Sometimes it is necessary to bend the pad inwards, to make the pressure complete: this will vary according to the form of the patient. A compress of fine flannel may be put under the pad, to prevent excoriation, and the part now and then washed with cold water, &c. This is not likely to happen if the pad is put properly, so as not to press on the bones. The truss should be worn night and day. After wearing a truss some time, there will be more danger of strangulation in case of protrusion than before, the mouth of the sac being more contracted; therefore it should be continued for some time after the patient is apparently well.

Bandage for the penis.—After any operation, the fluids have a tendency to gravitation. If the penis hang down, the inflammation will be kept up; it therefore should be confined to the abdomen by a narrow roller or fillet, fastened to a circular one previously passed round the abdomen.

Bandages for the extremities.—First, for fractures of the os humeri: if a simple fracture, two single-headed rollers will suffice, 5 or 6 yards in length. Having reduced it, &c., begin to roll the arm immediately under the fracture, carrying it in two or three circular turns directly round, which supports it; then in moderate spiral turns, either ascending or descending, so as to cover the arm. After this, the splints are applied; in a simple fracture, pasteboard will do. Short splints are improper, as the smaller the surface the more moveable the bones. These splints should be confined by a second roller, which goes in a spiral manner contrary to the first, and thus corrects the twisting of the muscles, &c.

When a simple fracture is near a joint, as the condyles of the os humeri or olecranon of the ulna, the limb should be kept steady, and in a bent position; a single splint of pasteboard should be applied.

When inflammation is abated, the joint should be gently moved about every second or third day, to prevent anchylosis.

For stumps a cross cloth is used to retain the dressings; also, it is proper to pass a circular roller to confine the integuments and prevent their retraction, previous to which they should be drawn forward by an assistant.

In fractures of the thigh the many-tailed bandage is more convenient. Formerly they kept the limb quite straight, in which case the bones used to ride one over the other, the limb became shortened, and the patient suffered much pain; afterwards the practice of bending the limb was adopted; it is a better position, yet is subject to one inconvenience; it is easy to the patient during the cure, but afterwards there is a twist; the knee and foot are turned out, and this causes him to halt, to avoid which we may lay it in a position between both, viz. by bending the leg, while at the same time it is not out of the line of the body; in that position the foot should be steadied and fastened by a roller to the pillow or bed.

In fractures of the patella a circular roller should be carried round it; or it may be done by a compress at the upper part, to prevent the superior portion being drawn up. Mr. Haighton has contrived some straps which answer very well; one applied below and the other above the knee. Having bent it down as low as you think proper, it is to be fastened round the limb, as the former. The limb should be kept straight till the inflammation is abated.

For compound fractures we have the many-tailed bandage; the splints are so constructed as to be easily removed without disturbing the limb. Mr. Sharpe's splints, made of paper and glue, are liable to be softened by the warmth of the limb; also, in compound fractures, where there is much discharge, the matter is apt to rot it. Those contrived by Mr. Martin are better, made like stays, but in some cases they are too pliant; hence wooden splints are the best. These should be defended by padding them well with wool. When the splints are ready the limb may be taken up, and the splints brought under it, so as to adapt them. When the limb is quite at rest we may dress the wound; it is extremely essential, in compound fractures, to keep the limb perfectly still till the callus is formed. The splints should be long enough to contain the whole of the bones, and may be fastened with buckles. The patient lies somewhat easier by having the limb a little raised; lying on one side there is a much broader surface for pressure; besides, lying on the heel for some time produces ulceration there; but there is no rule for laying the limb without exception, as it depends on the situation of the fracture; on this account, in some oblique fractures, we are under the necessity of laying the limb straight, in order to keep the bones more perfectly in their place. When it can be complied with, the bent position, laying the limb on its outer side, is most convenient. This is a considerable improvement in common fractures, which has only been practised these twenty years,

since which we have frequently saved patients with compound fractures in the hospital, which still is not so favourable as in the country, owing to the air and constitution of people in the country being better.

CLINICAL LECTURE

ON

SLOUGHING PHAGEDÆNA—SYPHILITIC ULCERATION OF THE ANUS—SLOUGHING SORES OF THE PENIS, REQUIRING DIVISION OF THE PREPUCE—PRIMARY SYPHILITIC SORES WITH INDURATED BASE.

Delivered at St. Bartholomew's Hospital,

By Wm. Lawrence, F.R.S, &c.

Cases of Sloughing Phegedæna.

The two following cases of sloughing phagedæna, in which the disease had not appeared at the time of admission, but shewed itself some days after the patients had come into the hospital, may perhaps elucidate the origin of the affection, at least negatively.

Margaret Wilson, 25 years of age, had been living in one of the lowest parts of London, as a common prostitute, for twelve months, during which she represented that she had been free from disease. On the 31st May she was admitted, under the care of Dr. Latham, for fever, the symptoms being referable principally to disorder of the head. She was twice cupped on the temple, to six ounces. She took the Hydrarg. c. Creta in the dose of two grains and a half, every six hours, for two days, and, in the two following days, four two-grain doses of calomel; subsequently, saline draughts in the state of effervescence. On June 10th, the feverish disturbance having subsided, she complained of uneasiness in the external organs of generation, which were consequently examined, when a discharge from the vagina was discovered, moderate in amount, without redness or excoriation of the external parts. For this she was ordered to inject a solution of sulphate of zinc. She stated, that on coming to the hospital she was not aware that she laboured under any venereal affection.

12th.—She complained of severe pain in the buttocks, and was examined by Mr. Ilott, my house-surgeon, who found in the fissure of the nates, behind the anus, a large deep excavation, with black sloughing surface, from which there was an abundant discharge of thin and extremely fœtid ichor. The patient was now removed into a surgical ward, and Mr. Ilott made a free application of pure nitric acid to the whole surface of the ulcer, giving afterwards thirty drops of Tinct. Opii to relieve the pain caused by the action of the escharotic. I saw the patient on the following day, and found a greater loss of substance than could have been expected to occur within so short a time. The chasm measured three inches from before backwards, and two inches in depth at the centre: the entire surface was converted, by the action of the acid, into a dark brownish black eschar; and there was no trace of the fœtid ichorous discharge. She had passed a good night, and was no longer in pain: the sloughing process was completely arrested. There was slight discharge from the vagina, without redness or excoriation. The pulse was feeble, and the patient rather pallid and weak; but she had not lost much flesh. The mercurial medicines administered during the febrile attack had not affected the mouth.

Bread poultice. Six ounces of port-wine daily; milk diet with arrow root. A dose of rhubarb and magnesia to open the bowels. One third of a grain of the muriate of morphine at bed-time, if necessary.

14th.—Powdered charcoal added to the poultice.

18th.—Broth diet. 25th.—Meat diet.

A perfectly healthy granulating surface succeeded to the separation of the eschar, and cicatrization proceeded rapidly: the vaginal discharge soon ceased. She left the hospital of her own accord, about the middle of July, in perfect health and strength; but the ulceration had not completely healed.

Mary Ann Lewis, a robust and well-made girl, 18 years of age, was received into St. Bartholomew's on June 18th, 1838. Twelve months previously she contracted a sore on the upper and inner part of the thigh, of which the cicatrix is still evident. It healed in a month without the use of medicine. Three months afterwards she had a glandular swelling in the right groin, which suppurated, and was opened, ulceration of the tonsils, scaly eruption, and pain in the limbs. For these complaints she was admitted into the hospital, and took mercury, which affected her mouth. She soon got well, and was discharged cured in November last. About two months since a bubo came in the left groin; it broke, and the opening subsequently increased and became painful. A week ago she felt a hard swelling at the lower part of the left nympha; it was attended with considerable pain. On the 26th ulceration commenced, with fœtid discharge, and spread rapidly. She was admitted on the 28th, when there was a phagedænic ulcer, as large as a crown piece, extending from the left nympha to the lower part of the entrance of the vagina, with copious fœtid discharge, inflammatory swelling of the surrounding parts, and great pain:

there was a deep and painful ulcerative excavation, with unhealthy surface, in the left groin. The patient had not lost flesh, and did not suffer constitutionally, except from the pain.

Bread poultice to the ulceration. Pil. Saponis c. Opio. gr. v. every night; half an ounce of the fluid extract of the compound decoction of sarsaparilla, three times a day.

29th.—Black wash to the ulcer at the entrance of the vagina, under the poultice.

On July 28th sloughing phagedæna occurred in the fissure of the buttocks, but proceeded to about one-third less in extent and depth than in the preceding case. The same treatment was adopted, with the effect of immediately arresting the disorganizing process. The sore healed rapidly under simple applications; at the same time the ulcerations of the genitals and groin, treated with black wash and poultice, soon assumed a healthy character, and cicatrized favourably. The patient was discharged on August 6th, without a vestige of local malady, and in excellent health.

The cases now related, with those in a former lecture, illustrate strikingly the destructive nature of sloughing phagedæna. Margaret Wilson is carefully examined on June 10th, when no ulceration exists; and on the evening of the 12th a sloughing chasm, three inches long, is discovered. The progress is equally rapid in Mary Ann Lewis. Perhaps there is hardly any other affection of the ulcerative class, in which destruction so extensive occurs within the same space of time.

It is almost confined to females, who are much more exposed than the other sex to the exciting causes. The case of Reid is a rare example of its occurrence in a male.

It occurs in conjunction with venereal complaints, and on or in the immediate neighbourhood of the genitals; yet it does not seem to be a direct result of infection. It could not, indeed, be produced by the discharge of a similar sore; for the existence of the complaint would absolutely preclude sexual intercourse. Hence the peculiarities of the affection must be derived from circumstances belonging to the individual. It is generally met with in young and delicate females, who lead a life of debauchery in the lowest haunts of the metropolis; injuring their constitutions by drinking, especially spirits, by late hours, and exposure to cold and wet with insufficient clothing. The sexual organs are excited and irritated by excessive indulgence, and do not remain long free from disease. Thus these *unfortunate* females, as they truly call themselves, are exposed to a combination of injurious influences, general and local, sufficient to explain the occurrence and peculiar nature of this formidable malady. Let me observe, however, that the case of Mary Harmer does not come exactly under this general explanation, according to her own history of the business.

Whatever may be its causes, or mode of production, the malady itself is strictly local. The severe pain causes acceleration of the pulse, impairs the appetite, and prevents rest; effectual destruction of the disorganized surface, by a powerful escharotic, immediately stops the mischief. When the pain of the application has subsided, the circulation is tranquillized, the appetite and rest are restored, and the patient may be considered well. The point of chief importance in managing the sore, is to keep it and the surrounding parts clean; to absorb discharge from the sexual organs, and the secretions of the sore, by lint frequently changed. The part may be covered either by soft lint or by poultice.

Venereal affections are sometimes seen, in which sloughing supervenes on ulceration, but does not spread. The disorganizing process is limited, and the dead part is thrown off naturally. The following is an example:—

Frances Atkins, 20 years of age, had discharge from the vagina, and a small sore on the external surface of the left labium, for which she attended an hospital as outpatient. The discharge ceased under the administration of copaiba mixture. The sore was touched with caustic, and then dressed with black wash; blue pill being given internally. It healed speedily, leaving behind a small hard lump as large as a pea. The induration gradually increased till it acquired the size of half-a-crown. A small spot of ulceration then appeared on the surface, and increased slowly. At the end of a month it assumed a foul aspect, but was not painful. In another week she began to experience pain, but it was not severe. There had been discharge from the neighbourhood of the anus, with severe pain, for two months. She was admitted into the hospital on June 7th, 1838, with an ulcer on the left labium as large as a sixpence, and considerable surrounding induration. There was a black eschar in the centre, surrounded with an unhealthy ulcerated ring. She had also discharge from the vagina, and ulcerated fissures of the anus.

Five grains of blue pill, night and morning; black wash to the ulcer of the labium and the fissures; bread poultice to the labium.

9th.—The ulcer of the labium is enlarged.

12th.—The eschar has separated, leaving an excavation as if a piece had been scooped out, with a perfectly healthy surface. It

is an inch long, rather less in width, and more than half an inch deep. The sore and the fissures healed rapidly, and the patient was discharged well on the 26th.

This case teaches us, what we have frequent opportunities of observing, that it is not safe, in primary venereal sores with indurated base, to discontinue the mercurial treatment until the induration has been dispersed.

The ulcerated fissures of the anus, which occurred in the case of F. Atkins, deserve your attention, as they are frequently met with, more especially in females, and are often attended with great pain. They are seen under various appearances. The integuments of the anus are sometimes inflamed and excoriated, and ulceration is found in some of the folds. There is a thin and rather offensive discharge, and condylomata sometimes arise in the neighbourhood. The ulcerations may be confined to the skin, or may extend into or be confined to the orifices of the bowel; in the latter case they may escape observation unless the parts are separated carefully. There may be one or more ulcerations at the edge of the anus, with a raised margin of the surrounding integument; the latter being sometimes so prominent as to conceal the sore: this raised edge may be half an inch or more in depth.

These ulcerations, which, from their frequently occurring in the form of chaps or fissures, are called technically *rhagades ani*, have been sometimes considered as primary effects resulting from the direct infection in unnatural practices. They have always appeared to me to be secondary symptoms: they are often accompanied by other forms of constitutional syphilis. I once saw them, in a case which was in all respects singular, as the sole constitutional symptom. Several years ago I received a letter from a medical practitioner to consult me about himself. He had received in the morning a slight wound on the back of the thumb, from a nail, and he was called in the evening to attend a female vagrant taken in labour. Soon after his return home the thumb began to be painful, and the pain increased during the night. In the morning it was swelled and inflamed; and the scratch had ulcerated. He now became alarmed, and immediately proceeded to examine his female patient, whom he found to be affected with syphilis. The ulcer on the thumb spread to the size of half-a-crown. He wrote to me some days after the thing had happened: his account pointed so clearly to syphilitic infection as the source of the mischief, that I recommended to him the use of mercury. At the end of a fortnight or three weeks he came to London; the ulcer of the thumb being then at least as large as a half-crown, and not disposed to heal; he said that he had suffered much during his journey from an attack of the piles. On examining the anus, I found inflammation of the integument with several ulcerated folds; one of these was one inch and a half long by half an inch deep. The part was excessively painful. He now went through a regular mercurial treatment, under which the primary ulcer and the secondary affection soon assumed a healthy appearance, and in due time healed soundly. This gentleman has never had any other symptom.

Sloughing Sores of the Penis, requiring division of the Prepuce.

James Trench, 37 years old, represented that he had first contracted the venereal disease at the age of 18; and that he had been subsequently affected six or seven different times. He is accustomed to drink freely, and has the pallid unhealthy look indicative of such habits. He observed a small sore behind the glans on April 5, 1838, but neglected it entirely, and continued his usual dissolute habits. He was received into the hospital on the 11th, with the penis swelled nearly to the size of my fore-arm, with the prepuce tense bright red, and drawn over the front of the glans: a thin ichorous and fœtid discharge issued in abundance from its orifice. There had been copious bleeding from the same part in the morning and the preceding evening, to the amount, as the patient alleged, of a pint on each occasion. These bleedings, with the fœtid ichorous discharge, and the highly inflammatory swelling of the prepuce, shewed that mortification was going on within, and that immediate exposure of the parts was absolutely necessary. I therefore introduced a director between the prepuce and the upper surface of the glans, and divided the former in its whole length to the corona glandis, with a curved bistoury. The divided edges bled freely, the blood running down in a large stream; and thirty ounces were thus lost. The back of the glans and its left side, being at least one-third of the whole, were converted into a dark grey slough; while the corresponding surface of the prepuce was ulcerated with an ash-coloured and sloughy appearance. There was a large ulcer on each leg, producing an abundant and very offensive discharge; the ulcers had not the syphilitic character, nor were they of unhealthy aspect.

The pulse was feeble and frequent; the general strength less reduced than might have been expected from so large a loss of blood within a short time, in a patient with a constitution enfeebled by long indulgence in irregularities of all kinds.

Bread poultice was applied to the penis when the bleeding had ceased; sarsa-

parilla was ordered, and six ounces of port-wine daily. Pil. Sapon. c. Opio, gr. v. every night.

13th.—Pulse quiet, tongue clean and moist; good rest at night. The sloughing extends deeply between the glans and body of the penis: nearly the whole internal surface of the prepuce is in a state of sloughy ulceration. The penis is a little heated, and there has been a slight renewal of hæmorrhage. Powdered charcoal to be added to the poultice, which is to be renewed every six hours. The wine to be discontinued. Milk diet.

18th.—The slough, which never extended after the division of the prepuce, has entirely separated, leaving a healthy granulating surface; the edges of the incision are in the same state. The process of mortification had separated the glans from the corpora cavernosa penis, of which the obtuse anterior extremities were seen at the back of the deep chasm behind the glans. The copious bleeding, previous to the patient's admission, probably proceeded from vessels laid open in this deep extension of the sloughing process. The fibrous covering of the left corpus cavernosum has sloughed to the size of a sixpence, and the dead part is not yet separated. Meat diet, with beer. Although the ulcers of the legs look healthy, and are not painful, the dischage is most offensive, and taints the atmosphere of the ward. Simple dressing, with free use of the chlorate of soda.

On the 25th, it was necessary to administer active aperients, and to return to milk diet. The cicatrization of the sore proceeded slowly but favourably; the glans became again fixed to the body of the penis: the divided edges of the prepuce were drawn up towards the back of the organ, and its figure was thus restored with much less damage than might at first have been expected. Some time was occupied in the treatment of the sore legs; and thus the patient remained in the hospital till June 21st, long after the penis had been completely healed. He went away in much better health than he had enjoyed for a long time previously.

Edward Morris, 21 years old, admitted on June 7th, stated that six days previously he had observed a sore on the prepuce at the root of the glans; that the appearance was trifling, so that he had pursued his usual avocations without employing any treatment. There had been no discharge from the urethra. For the last two or three days the penis had been swelled and painful, and he had been unable to withdraw the foreskin. At the time of admission the prepuce was considerably red, swelled, and painful; there was a copious discharge from its contracted orifice, of a thin, somewhat fœtid, and reddish purulent fluid. The propriety of dividing the prepuce was doubtful, and I decided against the proceeding after considering all the circumstances carefully.

Twelve leeches to the prepuce; bread and water poultice. Frequent injection of tepid water under the prepuce; aperient medicine, followed by salines and antimonials.

9th.—Symptoms nearly the same; continuation of the treatment, with repetition of the leeches.

11th.—The glans protrudes slightly, being partly livid, partly in the state of ash-coloured slough. The prepuce has a lived hue on its upper surface. The discharge is ichorous and fœtid. These evidences of serious mischief shewed the necessity of immediately dividing the prepuce, which was done accordingly. Two-thirds of the glans had sloughed, and the whole internal surface of the prepuce was ash-coloured, ragged, and sloughy. Poultice of bread and charcoal.

14th.—The mortified parts of the glans and prepuce have separated; about one-third of the former remains, with rather larger proportion of the latter. The cicatrization was soon completed, and the patient was able to leave the hospital at the end of three weeks.

James Champion, 17 years old, contracted gonorrhœa; soon after which the penis swelled, and became so painful in four or five days, that he came into the hospital on April 9th, 1828. There was great and acutely painful swelling of the penis, with bright redness and tension of the prepuce, phimosis, and copious discharge of bloody fœtid fluid. The prepuce was immediately divided in its whole length, along the middle of its superior aspect: it had sloughed on the internal surface to the extent of an inch in diameter, and the rest of the lining membrane was highly inflamed. The glans was inflamed and swollen, bright red, rough, and villous, with numerous small grey specks. There was free bleeding from the cut edges of the prepuce; when it had stopped, a bread and water poultice was applied. Aperient medicines, followed by saline mixture, with antimony. The recovery was rapid in this case: the glans had recovered its natural appearance in 24 hours; nearly all the prepuce sloughed, and the patient went away at the end of three weeks, with no further damage than a permanently denuded glans.

The high inflammation and sloughing which occurred in the three foregoing cases are not referable to the unfavourable character or serious nature of the primary vene-

real affections, on which they supervened; for these affections were slight sores in two instances, and gonorrhœa in the third. These trifling maladies excited inflammation, which was aggravated by imprudent exertion, neglect, and intemperance. The reason why inflammation of the glans and prepuce proceeds so frequently to mortification, must be found in the mutual relations of the two parts exerting on each other a reciprocal pressure, which acts on the glans from without, on the prepuce from within, and becomes more and more injurious in proportion as the inflammation is aggravated. If ulceration of the glans has been the source of the mischief, as in the two first instances, that part suffers, and the gangrene may also extend to the prepuce. If, however, the glans should be sound, as in the third instance, where the inflammation was excited by gonorrhœa, it is probable that the prepuce only will mortify.

The progress of these affections may be arrested in their early stage by an antiphlogistic treatment, particularly free leeching and perfect rest in the recumbent position. But when a state of foul ulceration or of sloughing has come on, the division of the prepuce, as performed in these cases, is the only effectual means of relieving the patient, by cutting short the inflammation, and arresting the progress of disorganization. Copious bleeding takes place from the edges of the divided prepuce; the inflammation is immediately abated, and the patient is soon in a state of ease. The mortified parts quickly separate under simple poulticing, and a healthy granulating surface succeeds in a few days, offering a striking contrast to the destruction met with in first denuding the glans.

It is best, in these cases, to divide the prepuce on its superior aspect, as we want the most complete exposure of the glans. When we are operating for phimosis on parts otherwise healthy, the inferior aspect is the preferable one for the incision.

It is sometimes difficult to decide, whether we should slit up the prepuce, or attempt to reduce the inflammation by other means. Great swelling, with bright redness, tension, and great pain, lead to the suspicion that serious mischief has occurred within. We ought not, however, to proceed to the operation on the evidence of these circumstances only; if there should be, in addition, a dark livid discoloration of the prepuce at some part, we may proceed to use the knife. The character of the discharge issuing from the orifice of the prepuce will assist us in doubtful cases. Should it be puriform and not fœtid, the operation need not be resorted to; a stinking ichor clearly indicates that mortification has taken place; and a red offensive discharge, whether thick or thin, leads to the same conclusion, or to the inference that this change is impending. Whenever, therefore, either of the latter states is seen, in conjunction with the external evidences of high inflammation, the prepuce ought to be divided immediately. In the second of the three foregoing cases, the destruction would have been much less, or, perhaps, would have been altogether averted, if the division had been resorted to when the patient was first admitted. I have seen no instance in which I have judged that the patient would have been better off if the operation had not been performed; but several cases have come under my observation, where extensive and serious destruction had obviously ensued from its postponement.

Cases of Primary Venereal Sores with indurated base (indurated Chancres.)

Charles Springay, 16 years of age, was admitted on April 5th, 1838, with two ulcers on the prepuce, and glandular swelling in the groin, which had existed for one month: no treatment had been adopted. The sores were seated on the base of the prepuce, just where its inner layer is reflected over the end of the penis; one was nearly as large as a shilling, with a more considerably indurated basis. The induration felt like a piece of cartilage under the skin; it was free from pain and redness, and it formed a considerable prominence when the prepuce was drawn back, so as to put its internal layer on the stretch. The ulceration was superficial. In the corresponding situation on the opposite side of the penis there was a superficial sore, as large as a sixpence, without the slightest induration, or thickening at the base. These two sores had appeared at the same time. The glans were enlarged in each groin.

Pil. Hydrarg. gr. v. night and morning; black wash; leeches to the groins.

14th.—The pill to be taken three times a day.

18th.—Being nearly well, he was allowed to go out, and attend as out-patient: at the end of about a week he was perfectly well.

William Andrews, 34 years of age, came into the hospital, May 30th, with venereal complaints, which had begun two months previously, and been allowed to proceed without any regular treatment. He had a large and rather deep ulcer on the left side of the penis, partly occupying the corona glandis, partly the neighbouring portion of the prepuce. The portion of the sore on the prepuce had an indurated base, very similar to that in the preceding case; that in the glans was quite free from inflammation. There was a smaller sore on the prepuce without induration. The tonsils were

superficially ulcerated, and there was a glandular swelling under the jaw. The limbs were painful. Under the blue pill, night and morning, and black wash, the symptoms speedily abated, and he was made an out-patient on June 11th.

Evan Pugh, 60 years of age, was admitted into the hospital, Feb. 22, 1838, with diseased appearances, which were at first puzzling. The integuments of the penis and the prepuce were inflamed and swollen, and the latter could not be drawn back, although its orifice was not much contracted. There was copious puriform discharge. Just within the prepuce, at its lower part, two ulcerated prominences were seen, separated by a fissure. As the prepuce was free above, and no part of the glans could be seen, these prominences, each of which was as large as the end of the thumb, were, at first, supposed to be the glans in a state of ulceration. A more careful examination, however, shewed that this could not be the case ; that the glans, probably in a sound state, was behind these parts, and that the prominences were enormous indurations ulcerated on the surface. There was an ulcerated bubo in the left groin. Black wash to the sores ; poultice to the prepuce and to the groin. Two grains of calomel, with one-third of a grain of opium, three times a day. This treatment was continued to March 19th, the mouth being considerably affected the whole time: the blue pill, night and morning, was then substituted for the calomel and opium. The mercurial action was attended with a gradual diminution of the indurated swelling, and healing of the ulceration. In proportion as the enlargement subsided, it was discovered that the ulceration had been single, the apparent division having been merely a deep fissure. Pugh left the hospital at the end of March, with the ulceration healed, and the induration dispersed, so that the prepuce could be freely retracted.

Charles Leader, æt. 31, came into the hospital on March 19, 1838. He had phimosis, with ulceration at the orifice of the prepuce. The lining of the latter was generally and considerably indurated, forming a firm mass of cartilaginous hardness, without pain, as large as the last joint of the thumb. The external integument was not involved in the mischief; it could be pinched up and moved over the induration. At the root of the penis there was the cicatrix of an ulcer recently healed. Tepid water to be injected daily under the prepuce, and subsequently black wash; and blue pill three times a day. The ulceration at the orifice of the prepuce had healed, and the induration was considerably lessened at the end of ten days, when the patient left the hospital by his own desire, to continue under treatment as an out-patient.

The indurated base is a striking concomitant of some primary syphilitic sores, and it attracted the notice of Mr. Hunter. He seems to have investigated the venereal disease, under the influence of a persuasion that the effects of the poison must be peculiar and definite ; and he fixed on this as the specific character of chancre. "Venereal ulcers," he says, "commonly have one character, which however is not entirely peculiar to them, for many sores that have no disposition to heal, which is the case with a chancre, have so far the same character. A chancre has commonly a thickened base." Again, in describing the formation of the sore, he says, "a thickening of the part comes on, which at first, and while of the true venereal kind, is very circumscribed, not diffusing itself gradually and imperceptibly into the surrounding parts, but terminating rather abruptly. The base is hard, and the edges a little prominent." Considered generally, this statement is far from being correct : of the various sores produced directly by syphilitic infection the great majority have no indurated base.

The cases of Springay and Andrews exemplify the most common form of the indurated sore in its most frequent situation ; that is, in the fold connecting the prepuce to the glans. The hard cartilaginous lump that we meet with in such cases, is generally without redness or pain ; sometimes it is red. The ulcer is on the surface of the induration ; generally superficial, occasionally a little excavated. Sores at the orifice of the prepuce are sometimes indurated, the hardness being red, consisting partly of a thickening of the skin, less firm and circumscribed than in the other case. The entire orifice is thickened, and indurated in some cases.

The induration may continue, and that for a considerable time after the sore has cicatrized.

Sometimes an induration appears after sores have healed. A gentleman consulted me for two or three small sores, which disappeared in three weeks under the moderate use of mercury. In three weeks more, without any fresh infection, an induration came at the root of the prepuce in the situation of the former sores, and on this a sore formed. When I saw it, (Oct. 28th) the induration was equal to a horse-bean, and the sore to a split-pea. The remedies were blue pill twice daily, and mercurial ointment locally. On November 12th, the sore had healed, but the hardness remained : three pills daily. December 13th, the pills have been continued. Mouth a little sore ; the induration reduced to one-third of its ori-

ginal amount. At Christmas, when the patient left town, the hardness had completely disappeared. This happened many years ago, and the gentleman, whom I am well acquainted with, has never had secondary symptoms.

I have seen induration of the prepuce occur in conjunction with secondary symptoms. A gentleman had primary sores, which were very obstinate When they had been healed some time, he married. At the end of a twelvemonth there came a large bright red thickening of the prepuce, and a few scaly eruptions on the head. These symptoms were removed by the use of mercury.

The existence, under the surface, of loose cellular tissue, is an anatomical condition necessary to the production of induration. Hence it is frequently seen in ulcers occurring on the lining of the prepuce, more particularly at the angle of reflection, where the part is loose and folded, and the cellular structure abundant and lax; while it is very seldom met with in the glans, where that tissue is in small quantity and compact. The difference in this respect between the prepuce and glans is strikingly marked in sores occupying both parts, as in the case of Andrews, where the preputial portion of the ulcer is indurated, while that on the glans is totally free from hardness. Such instances are frequently seen.

That the occurrence of the indurated base cannot be explained by any peculiarity in the infectious matter, to which the disease owes its origin, may be inferred from such instances as that of Springay, where, of two or more ulcers caused by one and the same infection, one is indurated and the others not.

Although the structure of the glans is unfavourable to the production of induration, this appearance sometimes takes place in a slight degree. I conclude, from the following case, that it may occur as the primary symptom of syphilitic infection. I saw a gentleman on account of indisposition proceeding from cold. He mentioned incidentally that he had observed something unusual on the penis. I found a portion of the glans, towards the corona, rather larger than a sixpence, slightly indurated and elevated, the surface being flat. It was of a brownish red, not ulcerated, excoriated, or painful. This appearance had existed for some days, and might have proceeded from infection, to which he had been exposed. I prescribed a blue pill night and morning, which he took more or less regularly for three or four weeks. I saw him accidentally at the end of six or eight weeks, when he said that the swelling had disappeared.

The indurated base of a syphilitic sore is as much a part of the disease as the ulceration itself. If hardness should remain after the sore has healed, or if it should supervene on cicatrization, it may lead to a relapse of ulceration, or may be a source of constitutional mischief. The patient, therefore, is never safe in these cases until the hardness is dispersed. This object is easily accomplished by the local and general use of mercury, as the foregoing cases evince. In another patient, who was under my care, in the hospital, the disease, for which no treatment had been adopted, had existed for two months. There was a small and not deep sore of the prepuce, situated on an induration fully equal to the last joint of the forefinger. The enlargement was such that the prepuce, though not otherwise diseased, could not be drawn back without difficulty. Under the use of blue pill, with the local employment, first of the black wash and then of mercurial ointment, the disease was completely removed in little more than three weeks. In the bulk of the induration this case was intermediate between the ordinary smaller examples, and the great mass in the instance of Pugh, which was the largest that I have seen.

OBSERVATIONS ON THE VEINS OF THE UTERINE DECIDUA.

By Robert Lee, M.D., F.R.S.

Hoboken, Rouhault, Ruysch, Albinus, and Ræderer, knew that the amnion and chorion of the human ovum are surrounded by a third membrane, which is in immediate contact with the inner surface of the uterus. The first accurate account, however, of the structure of this membrane of the ovum, and its connexion with the chorion and uterus, was given by Dr. William Hunter, in his Anatomical Description of the Human Gravid Uterus and its Contents, in 1794. At page 79, he states "that the decidua is a very soft, tender, pulpy membrane, which lines the whole cavity of the fundus uteri, reaching to the beginning of the cervix and passing a little way within the origin of the fallopian tubes, at which place it is perforated by small openings. It is very irregular in its thickness, some parts being thicker than a crown piece, and others of extreme thinness; but this is subject to a good deal of variety in different persons. In the more advanced periods of utero-gestation, there is not

so much variety in the thickness of the different parts of the decidua, but it is then a thinner and much more uniform membrane."

The inner surface of the decidua, which comes immediately into view when the cavity of the uterus is laid open, is, at an early period of pregnancy, smooth; but the outer surface of the decidua, which is in immediate contact with the uterus, has shooting from it a prodigious number of little processes or flocculi, giving it a very irregular appearance. In the more advanced stages of pregnancy there is little apparent difference to the eye between the outer and the inner surface of the decidua, these flocculi being hardly observable. The adhesion, too, of the decidua to the uterus, at an early period of pregnancy, is not so strong as when pregnancy has made a further progress.

Besides that portion of the decidua lining the cavity of the fundus uteri, which Dr. Hunter used to call, by way of distinction, the decidua vera, another portion forms an external covering to that part of the chorion which is not in contact with the inner surface of the placenta. This was discovered by Dr. Hunter, who called it the decidua reflexa. It is a membrane of considerable thickness, and is sometimes of a yellower colour than the decidua vera. The ovum lies between a part of the decidua vera and the decidua reflexa, both of which unite into one membrane at the edge of the placenta; or the decidua vera divides itself at the edge of the placenta into two laminæ, one of which passes between the placenta and the inner surface of the uterus, and the other forms the decidua reflexa, which covers the outer surface of the chorion."

"Where the decidua reflexa is beginning to pass over the chorion, there is, at an early period of pregnancy, an angle formed between it and the decidua which lines the uterus; and there the decidua is often extremely thin, and perforated with small openings, so as to look like a piece of lace."

I have examined many ova which have been expelled from the uterus in the third month of pregnancy, and in all of them I have observed the openings in the decidua reflexa, thus described by Dr. Hunter, near the angle where it joins the uterine decidua. These openings are of an oval shape, with smooth margins, and they always pass obliquely through the membrane. If a blow-pipe be inserted into one of these, the interstices of the villi of the chorion and placenta are all readily inflated, and the air soon begins to escape freely from all the other apertures in the decidua reflexa, around that opening into which the blow-pipe had been inserted. If a tube with mercury be introduced into one of these apertures in the decidua reflexa, all the interstices of the villi of the chorion and placenta are likewise readily filled, and the mercury afterwards begins to escape from the numerous openings on the surface of the decidua reflexa. The same thing happens if air or mercury be first made to enter the interstices of the placenta, or villosities of the chorion. These circumstances render it probable that by means of the apertures, in the decidua reflexa, which resemble venous canals, there exists a free communication between the interstices of the chorion, and the cavity formed between the decidua vera and reflexa, and that the maternal blood circulates through these. This is rendered still more probable from the fact, that in the greater number of ova, blood in a coagulated and fluid state is found in the interstices of the villi of the chorion, and that by slight pressure the blood flows readily through the smooth openings in the surface of the decidua reflexa. More or less blood is also found in all cases in the cavity of the deciduous membranes, where these have not been lacerated in the process of expulsion. This fact was pointed out by Breschet and Velpeau many years ago.

The inner surface of that portion of the uterine decidua corresponding with the decidua reflexa is smooth, and is also perforated with a great number of small, oval-shaped apertures. These openings in the uterine decidua are found to communicate with smooth canals, which run obliquely in the membrane towards the uterine surface, and there terminate in larger openings, of an oval form, with thin valvular-like edges. These canals in the uterine decidua have other smaller canals opening into them as they proceed enlarging, towards their termination on the uterine surface. Air or mercury passes readily from the inner to the outer surface,

along these canals, in the uterine decidua.

In many of the ova which I have examined, I have observed the little bags described by Dr. Montgomery, on the outer surface of the decidua vera. On opening these bags, their inner surface is almost always smooth, resembling the inner surface of the uterine decidua, and in several specimens I have observed at the bottom of these sacs, a small smooth aperture communicating with the oblique canals above described in the decidua. Air or mercury introduced into these bags, has passed freely into the canals, and escaped through the openings on the inner surface of the decidua. If a blow-pipe be introduced into one of the apertures on the smooth inner surface of the decidua, the oblique canals in the membrane can all be readily inflated, and the air escapes on the uterine side through the openings in the bags, and through other openings in the membrane. In one instance, what seemed to be a small coagulum of blood filled one of these sacs.

The following is the interesting description which Dr. Montgomery has given of these cup-like elevations in the uterine decidua, and which I am disposed to regard as the terminations of those dilated decidual veins which convey the maternal blood from the cavity formed between the deciduæ, into the veins of the uterus —

"Repeated examinations have shewn me that there are, on the external surface of the decidua vera, a great number of small cup-like elevations, having the appearance of little bags, the bottoms of which are attached to or imbedded in its substance; they then expand or belly out a little, and again grow smaller towards their outer or uterine end, which, in by far the greater number of them, is an open mouth when separated from the uterus; how it may be while they are adherent, I cannot at present say. Some of them which I have found more deeply imbedded in the decidua, were completely closed sacs. Their form is circular, or very nearly so; they vary in diameter, from a twelfth to a sixth of an inch, and project about the twelfth of an inch from the surface of the decidua. Altogether, they give one the idea of miniature representations of the suckers of the cuttle-fish. They are not confined to any one part of the surface of the decidua, but I think I have generally found them most numerous and distinct on those parts of it which were not connected with the capillary rudiments of the placenta, and at the period of gestation which precedes the formation of the latter as a distinct organ; they are best seen about the second or third month, and are not to be found at the advanced periods of gestation."

Dr. Montgomery has added the following note to these observations:— "I confess I am not prepared (nor, indeed, is this the place) to offer any very decided opinion as to the precise nature or use of these decidual cotyledons, for to that name their form, as well as their situation, appears strictly to entitle them; but from having on more than one occasion observed within their cavity a milky or chylous fluid, I am disposed to consider them reservoirs for nutrient fluids separated from the maternal blood, to be thence absorbed for the development of the ovum. This view seems strengthened when we consider that at the early periods of gestation the ovum derives all its support by imbibition, through the connexion existing between the decidua and the villous processes covering the outer surface of the chorion *."

If the preceding account of the decidual veins be correct, it appears that the circulation in the human ovum in the third month of gestation is carried on in the following manner:—The maternal blood is conveyed by the arteries of the uterine decidua into the interstices of the placenta and villi of the chorion. The blood which has circulated in the placenta is returned into the veins of the uterus by the oblique openings in the decidua covering the placenta. The blood which has circulated between the villosities of the chorion passes through the openings in the decidua reflexa into the cavity between the two deciduous membranes, from whence it is taken up by the numerous apertures and canals above described in the uterine decidua, and so passes into the veins of the uterus.

14, Golden Square,
22nd Nov., 1838.

* An Exposition of the Signs and Symptoms of Pregnancy. By W. F. Montgomery, M.D. London, 1837. P. 134.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Urinary Diseases and their Treatment. By ROBERT WILLIS, M.D. Licentiate of the Royal College of Physicians, Physician to the Royal Infirmary for Children, &c. &c.

[Concluded from p 302.]

RESUMING our account of Dr. Willis's important book, we find the next subject treated of to be Ischuria renalis, to which, however, he gives the appropriate name of *Anuria*. The suspension of the urinary secretion for a time, and to a great extent, is occasionally met with in various inflammatory diseases, and after some surgical operations, and the same thing is sometimes met with independently of either such fever or local injury; more especially, it would appear from the experience of Schoenlein and our author, in young children. The same condition is also occasionally seen in the decline of life. The affection comes on insidiously, with constipation, indigestion, and diminished action of the skin, which becomes rough and dry, and is afterwards affected with an itchy papular eruption. The urine becomes diminished in quantity, and progressively more and more high coloured, the voiding it being in some (especially children) attended with much pain. It deposits lithic acid and the lithates copiously. Generally there is accompanying fever, but in the form corresponding to the ischuria renalis this is not the case, and Dr. Willis proposes to designate it by the name of *anuria apyretica*. In this the tendency is to coma and death.

"The progress of the disease, and the intensity of the symptoms, vary considerably in different instances. In the generality of cases, coma occurs about the fourth or fifth day from the time when the secretion of urine is totally suspended; and the fatal termination usually happens after the lapse of a few days more. But the secretion of small quantities of urine, which takes place from time to time in some cases, seems to relieve the system in some sort, and then the disease may go on for a much longer period than it ever does when the function of the kidney is completely annihilated. Under these circumstances anuria may only prove fatal after an interval of several weeks; or, time being allowed for the employment of the proper remedies, it may finally be brought to a favourable issue. There is a remarkable case related by Dr. Laing, of Fochabers, in which not a drop of urine was secreted for between nine or ten days at least, yet in which the patient ultimately recovered completely. Other cases are on record in which the secretion of urine is said to have been suspended for much longer periods. Dr. Parr, in his Dictionary, for instance, mentions one incidentally and without any details, in which no urine was secreted for six weeks. Haller speaks of a patient who made no water for a space of twenty-two weeks; Dr. Berres gives the very interesting details of a child, 12 years of age, in whom there was scarcely a drop of urine voided during more than half a year; but the most wonderful case of all is that which Dr. Richardson has described, in which the patient, if one who was strong and well might be so called, at 17 years of age had never made water in his life! Innumerable other instances might be quoted of a similar kind."

Some further interesting remarks follow, for which we cannot make room; after which, the author proceeds to express his entire disbelief in the existence of vicarious discharges of urine: he does not believe "that any one organ of the body can discharge the office of any other." The morbid phenomena discovered on examining the bodies of those who have died have been considerably different in different instances. The most general has been the evidence of inflammation; sometimes the kidneys are harder and drier than natural; sometimes one is enlarged, while in other instances the change has been most apparent in the surrounding adipose and cellular tissues.

As a general rule, the principal remedies are venesection and cupping, followed by a succession of blisters to the lower loins. Dr. Willis expresses considerable confidence in this part of the treatment:—

"As a most powerful auxiliary to these measures, a succession of large blisters, which deserve our best reliance in this disease, and ought never to be omitted, should be applied on either

side of the fleshy mass constituting the sacro-lumbales muscles. It will be better to heal these blistered parts up as quickly as possible, to remove the deadened cuticle by fomentation and gentle rubbing, and then to apply a fresh blister to the place, than to keep the excoriated surface open. The action of the cantharides appears to be positively useful in anuria; and exhibited internally, the Spanish fly has even been recommended as a kind of specific in the disease."

Purging, antimonials, and diluents, are also recommended; to which may be added stimulating diuretics, as turpentine and cantharides.

The third and five following chapters are devoted to those states in which the urine contains, and usually precipitates, certain foreign matters, forming the variety which we meet with of urinary depositions, including the formation of calculi, under the name of uro-lithiasis. These subjects are extremely well handled, but not of a nature for us to attempt to analyse.

In the second part of the volume we have to do with functional disturbances of the organs which excrete the urine—impediments to its discharge—incontinence—irritability of the bladder—spasm—and, lastly, catarrh of that viscus. Though we cannot enter upon these topics, we may notice *en passant*, that there are—what we should scarcely have expected to meet with in a *medical* treatise—some very judicious observations on the use of the catheter. After describing the treatment to be adopted in ischuria, he proceeds:—

"Should we still be foiled in our attempts by these means to get away the urine by the natural passage, we can then have recourse to the bougie or catheter. It is hardly within my province to speak of this part of the treatment, though I hold that the healing art is one and indivisible; but I may be allowed to recommend, on the strength of my experience in former years, the introduction of a soft plaster bougie of moderate size as a preliminary at all times to the use of any metallic catheter, which is a much less manageable instrument, and, as it is commonly constructed, with large open eyes in the sides near the point, apt to do a great deal of mischief to inflamed and highly irritable surfaces. A bougie having been passed into the bladder and left there for a little time, the urine will often be found to come away by its sides, and when the instrument is withdrawn to follow it in a rapid succession of large drops, and even in a slender stream. The success in this mode of proceeding is less brilliant, but I believe it to be more certain, and far more advantageous for the patient. The flow of urine once restored, perseverance in the use of the warm or hip bath, of fomentations to the perinæum, anodyne clysters, and gentle aperients by the mouth, will soon place the patient beyond danger.

"The introduction of a bougie, however, though it is not followed by the discharge of a drop of urine, is to be viewed as a great point gained; we have an assurance, that the canal of the urethra is pervious, and that instant relief is to be obtained by the brilliant operation of passing a catheter. I shall not dwell on this point, save for a moment to urge on the younger members of the profession, who may do me the honour to glance at these pages, the strong necessity of caution in the practice of this *always delicate*, and with parts affected by disease and changed in their relative position by distension, generally *very difficult operation*. The resources of art are not exhausted even when every effort of the most skilful hand, guided by knowledge, not dominated by force, has failed to carry a catheter into the bladder; an artificial passage for the pent-up fluid can still be made; and though *puncture of the bladder* may, as words, sound more formidably to the ear than the *passage of a catheter*, still I hold the operation of puncturing the bladder to be a trifle, and free from danger in comparison with the evil, and immense risk, encountered under everything like forced catheterism of the urethra. The celebrated P. Desault used to maintain, indeed, that there was no case in which a skilful surgeon could not reach the bladder with a catheter. During the eight years that he had held the rank of head-surgeon at the Hôtel-Dieu, he had only punctured the bladder once, and that was very shortly after entering on the duties of the office."

Here our confined limits oblige us to take leave of Dr. Willis. We have endeavoured only to give such an idea of his work as might induce others to peruse it, feeling assured that they will thank us for having recommended it to them.

Vorlesungen über Materia medica, oder über die Herkunft, die Qualität, die Zusammensetzung und die Wirksamkeit der Arzneistoffe, gehalten 1835—1836 *in der Aldersgate's-Schule zu London, von* Jon. Pereira, Esq., *Mitgliede der Gesellschaft der Wissenschaften zu London.* Deutsch bearbeitet und mit Zusätzen versehen von Dr. Friedrich J. Behrend, prakt. Arzte zu Berlin, Mitgliede mehrerer gelehrten Gesellschaften. Erster Theil. Enthaltend die Arzneimittellehre aus dem Thierreiche und Mineralreiche. Leipzig, bei Christian Ernst Kollmann. 1838.

The Elements of Materia Medica; comprehending the Natural History, Preparation, Properties, Composition, Effects, and Uses of Medicines. Part I. *containing the General Action and Classification of Medicines, and the Mineral Materia Medica.* By Jonathan Pereira, F.R S. and L.S., Member of the Royal College of Surgeons; Fellow of the Royal Medical and Chirurgical Society; Corresponding Member of the Society of Pharmacy of Paris; and Lecturer in the Medical School of the London Hospital, and at the Aldersgate School of Medicine. London: Longman and Co. 1839.

To the readers of this journal it must be superfluous to say a word in commendation of the articles which stand at the head of this notice. The Lectures of Mr. Pereira have been acknowledged by those acquainted with the subject, to constitute by far the best authority in the English language, in reference to the natural history and chemistry of the articles of the materia medica; while, with respect to their medicinal applications—a department in its very nature admitting of less perfection—he gives in a clear and lucid manner all that has been satisfactorily made out. We regard them as a most valuable portion of our volumes, and we are glad to find them now published separately, in an improved form. As additional proofs of the estimation in which they have been held, we may mention that they are in course of republication, from the pages of this journal, in India; and that there lies before us the first volume of a German edition, published at Leipzic.

MEDICAL GAZETTE.

Saturday, December 1, 1838.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

Cicero.

ON MEDICAL STUDIES.

In the advice which from time to time we have taken the liberty of offering to pupils, we have generally addressed ourselves to that large class who, being stinted in time and money, are necessarily limited to the minimum of study required by the Hall and College. Let us now consider the case of the minority (we hope an increasing one) who intend to go up for examination to the two establishments just mentioned, but, more favoured by fortune, have five or six years for preparation. Instead of spending four or five years in the shop of a general practitioner, and, as too often happens, without learning even the elements of the materia medica, or how to read a prescription, the pupil of the class we are now contemplating, after passing six months in the study of practical pharmacy, will dedicate the rest of his time to professional improvement, unhampered by the useless and deadening drudgery of pounding and mixing. It is hardly necessary to suggest that this emancipation must be the subject of a special agreement, otherwise his master will have a legal claim to his services during the whole period of apprenticeship. Freed from the counter, he is now at liberty to pursue his studies; but as to the best method of laying out his time, he is more in need of counsel than even the pupil whose case we have heretofore considered. The student limited to thirty months must attend the prescribed lectures, and cannot easily attend more; while he to whom time allows an ampler range will not confine himself to the legal minimum; but how

much shall he add, and what subjects shall he select for more careful and reiterated study? Let us endeavour to solve this problem.

In botany, chemistry, and forensic medicine, any addition to the prescribed courses would be unadvisable.

Even the materia medica, though far more important than the three subjects we have just mentioned, cannot well obtain more than the hundred lectures ordered in the schedule; for other subjects still more urgent, and far more difficult to master, will demand the student's extra time; and although to him, at the beginning of his career, five years may appear a painfully long period—

> "Slow as the year's dull circle seems to run
> When the brisk minor pants for twenty-one,"—

yet, as soon as he is fairly plunged into the ocean that he is to swim through, he will find all the time too short—all his exertions too feeble!

Anatomy can scarcely be studied too diligently. He will enter as a perpetual pupil at some distinguished school, and may begin to dissect as soon as he pleases. According to the regulations of the Worshipful Society, indeed, certain lectures on anatomy, and also a course of demonstrations, must be attended before he dissects; but this regulation need not prevent his dissecting for his own improvement while attending the first course of lectures. How much must he dissect? How long does it take to make an anatomist? Haller says twenty years; the majority of students would move, as an amendment, "three months, and a little grinding." *Inter utrumque vola;* let the student attend double the prescribed quantum of lectures, and dissect the whole body at least three times; while so doing, he will find it eminently useful to make preparations of all the blood-vessels. It is only the beginner to whom it can be necessary to remark that the arteries are, as it were, the pole-star of his anatomical studies*, and that in the emergencies of country practice, not to know how to cut down upon an artery is often not to know how to save a life. He will, of course, take advantage of the numerous opportunities of learning morbid anatomy, afforded in every hospital; and if he has profited by the advice of our intelligent correspondent, Mr. Solly, and learned to draw, these opportunities will be infinitely multiplied in value, by the subjects which they will offer to his pencil.

The two courses required on the practice of physic, consisting of one hundred lectures each, appear to us a sufficient quantity even for students of the higher class; but it would be desirable that, during their attendance on these lectures, they should be released from any other pursuit, except hospital or dispensary practice, attending cases at home, and appropriate reading†,—an arrangement which, we suppose, might easily be made, though the strict letter of the law, contemplating a curriculum of only two years and a half, orders it otherwise. Clinical lectures now form a most useful adjunct to the practice of every hospital, and should be most scrupulously followed.

The Society of Apothecaries observe, in their Regulations issued in 1835, that "it appears by the Parliamentary Tables, that *more* than one-half of the

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* "I may here repeat that there can be no true presence of mind unless you have studied with care the most essential of all subjects—the surgery of the arteries."—(Clinical Lecture, by Sir C. Bell, in Med. Gaz. vol. i. p. 362.)

† "He used to take notes of the heads of each lecture, and on returning to his lodging, translated into Latin those which had been given in English; he then carefully consulted and compared the opinions both of the ancients and the moderns on the subject of the lecture; to which he added such remarks upon each as his reading and reflection suggested. In his clinical studies he followed a similar plan. When any case occurred to fix his attention, he examined the various authorities which bore upon the point, and formed a comparative result from their evidence and opinions. Many years afterwards he recommended this method to Dr. Lettsom," &c.—*Family Library: Life of Fothergill*, p. 184.

deaths which annually take place are those of children under five, and of the aged, above seventy, years of age. The diseases of these two classes, and those of women in the pregnant and puerperal state, cannot be studied at hospitals, as they are now constituted."

In the passage on which this quotation is a note, the Worshipful Society express a wish that the governors of hospitals would re-organize their out-patient establishments, so as to give pupils the opportunity of studying large and important classes of disease, which are seldom seen in the wards. Perhaps they wish for the establishment of a lying-in department of out-patients, which, we believe, is already to be found at several general hospitals; that the really diligent student will find almost every variety of practice among the out-patients whom he visits at their homes. Dispensary practice will lend its aid; and, if we mistake not, there are two dispensaries, or infirmaries, in London, exclusively for children. The maladies which await the other extreme of human existence are perhaps best studied in some great parish infirmary, to which it cannot be very difficult to obtain access.

On surgery it will not be necessary to say much; for to the young and enthusiastic student it is so captivating, that it is rather requisite to check than stimulate his diligence. We do not mean that it is possible to study with too much zest during a given time, but that it is possible for the pupil to forget that he is about to become rather the physician than the surgeon of the community, and to devote to the more brilliant branch of the art of healing that time which should be consecrated to the one which he will be more commonly called upon to exercise. He will probably obtain the place of house-surgeon in one of our great hospitals, and will there have unlimited opportunities of learning those parts of the art which are the most useful, because the most frequently in requisition.

Dexterity in bandaging, for instance, is often neglected, as if, as Dogberry says of reading and writing, it came by nature; yet how few can put on a bandage tolerably!

To what did Scott, of Bromley, owe his reputation? Bandaging and repose were the whole secret of his cures.

To attend an eye-infirmary is not only advisable, but necessary; and here the pupil will obtain cases to treat himself.

According to the programme issued in 1835, lectures on midwifery and the diseases of women and children were to be attended during the second summer session; while midwifery, with attendance on cases, was among the subjects of study in the third winter session. It appears, however, from a communication with which we were favoured not long since by our esteemed correspondent, Dr. F. H. Ramsbotham, (p. 160 of the present volume), that an alteration has been lately made in these rules. The law is now, that two courses of midwifery must be attended in separate sessions, subsequently to the termination of the first summer session, which allows the student more latitude. Dr. Ramsbotham recommends him to take advantage of it, by attending the required courses of theoretical instruction during the two last winters, and take cases during the intervening summer. We are not quite sure whether it would be practicable for the 30 months' pupil to add lectures on midwifery to those which he must necessarily attend during the second winter; but the five years' pupil will certainly profit by Dr. Rambotham's advice, and spread his obstetrical studies over three sessions *at least*, instead of two. It is superfluous

to recommend him to take, not five or six cases, but fifty or a hundred; for this branch of our art has always led most readily to wealth and fame. Mr. Kinder Wood, a distinguished surgeon-accoucheur, of Manchester, whose biography is to be found in our seventh volume, during his apprenticeship "took rather copious notes of 320 labours, which he had himself attended."

The office of house-surgeon at a lying-in hospital presents advantages which will not be undervalued by those who wish to establish a reputation as well-informed and dexterous accoucheurs.

His studies now gone through, and the five years flown with unexpected swiftness, the student prepares for his examination, and is naturally anxious to know whether he had better have the assistance of a medical tutor; or what, in more familiar phrase, we call a grinder. A ticklish and delicate question! For while, on the one hand, a diligent pupil is unwilling to be confounded with the mob, who know nothing save what the grinder has stuffed into them, and who go up for examination in a state something between an automaton and a parrot; on the other, he clearly sees the advantage of being assisted in selecting from his mass of acquirements those parts which are of most practical utility, and which are, consequently, most likely to be inquired into. Indeed, either the paid help of a grinder, or the unbought advice of a judicious friend, he must have, were it only that he might distinctly know in what points his knowledge is imperfect, or ill-assorted.

However, we will suppose that the examinations are not only safely, but honourably got through. The student, now a lawful practitioner, may direct his attention to those refinements which his pupilage scarcely enabled him to master, such as auscultation, and diseases of the skin; and if his circumstances permit it, we would strongly recommend an attendance of six months at Paris, were it only to learn medical tolerance, and to become acquainted with the fact, that as "there be livers out of England," so also there be physicians out of Britain.

Another question is likely to spring up, far more difficult and delicate than the one touching the propriety of grinding. It is this: had not so accomplished a student better take to the higher walks of the profession, instead of practising as a surgeon-apothecary? Why, yes—in case he and his friends can give a satisfactory answer to any one of the three following queries:—

Can his family maintain him in comfort and gentlemanly ease for the next ten or twelve years?

Has he such an introduction as is the lot of one man in fifty?

Or, has he such splendid talents as are the portion of one man in a hundred?

If he cannot give the most satisfactory answer possible to one of these questions, we must say "no!" instead of "yes!" If he is to be merely one of the shoal of gentlemanly, half-starved young men, waiting for a chance of practice in the year 1850, who "chat, stroll round the wards, and warm their nether-ends at the board-room fire until two or three o'clock" (Med.-Chir. Rev., April 1837,) we would rouse him from his day-dream of success never to be realized, by most energetic "noes!" We would say to him, beware of these injudicious friends, who mistake fair abilities for unrivalled talents; by all means prefer a certain competence at six or eight-and-twenty, to the chance of clearing enough to pay your house-rent at forty.

DEATHS FROM CARBONIC ACID GAS.

Four deaths have lately taken place from carbonic acid gas. One of them has excited considerable interest, as the noxious vapour was produced by a stove which has made some noise in the world, the one invented by Mr. Joyce, and sold by Mr. Harper. It appears from the evidence given before Mr. Payne, the City Coroner, on the 19th and 23d of November, that on the 17th, one of these new stoves was placed in St. Michael's Church, Cornhill, for the purpose of heating it experimentally. James Trickey, the deceased, remained the whole night in the church to watch the effects of the stove, and in the morning was found dead, at the distance of about a yard and a half from it. On post-mortem examination, serum was found in the ventricles of the brain, and much congestion on its surface. Out of five medical practitioners examined on the first day, four were of opinion that Trickey was not killed by carbonic acid gas, but died of serous apoplexy. It is well known, however, that when this gas destroys life, serous effusion into the ventricles is one of the most common phenomena *.

The evidence given on the second day was again conflicting. In the Times' report, indeed, Dr. Golding Bird, Mr. Brande, and Mr. Cooper, are all represented to have said that the quantity of carbonic acid gas generated by the stove could not have been sufficient to destroy life; but in the Times of Nov. 26th there is a letter from Dr. Golding Bird, giving a very different account of his evidence. He says that on visiting St. Michael's church, after it had been again heated with charcoal in the same stove, "there was lying near the floor, in the middle aisle, a stratum of air sufficiently impregnated with carbonic acid to be, to the best of our belief, exceedingly injurious, and perhaps even fatal, to any one in the recumbent position, and exposed to its its influence. . . . . And whilst stooping to perform this experiment [testing with lime-water], I unavoidably inhaled this lower stratum of air, and was immediately attacked with severe throbbing of the temples, weight over the eyes, and a disposition to syncope so great, that I had considerable difficulty in reaching Mr. Blenkarne's house, where some of the air I had collected was examined."

The truth appears to be, that although forty-nine pounds of charcoal could not contaminate the whole air of a church containing about 100,000 cubic feet, they might easily render the air near the stove destructive to life, especially if we suppose the unfortunate deceased to have laid himself upon the ground, or near it. Hence these stoves might be used if we were assured of the consummate prudence of every one who employed them; but not always having this security, we must recommend the public never to heat rooms with charcoal, excepting in a stove with a chimney to it. The verdict of the jury was, "that the deceased, James Trickey, came to his death by apoplexy, accelerated by inhaling impure air."

The second and third case occurred about a fortnight ago, at Greetham, in the county of Rutland. Two servants, named Temperance Hibbit and Sarah Ann Carpenter, having washed their bed-room, and thinking it not quite aired, took up a chafing-dish full of live coals, which they left burning after going to bed. There was no chimney, and they were suffocated in their sleep by the carbonic acid gas. An inquest was held, and the verdict was "accidental death." The *Rutland Herald* adds with great propriety, "It is a vulgar error that bright or live coals may be used in this manner with impunity, as this melancholy fact most painfully proves." It might also have been observed, that a room without a chimney is of itself an unwholesome bedchamber.

The fourth case occurred last week near London. An inquest was held at the Ordnance Arms, Lewisham road, on the 27th of November, on the body of George Bell, who was discovered in a burning lime-kiln on the 22nd. He was not burnt, but in a state of stupor, with low pulse, convulsions, and aphonia. He survived till the 25th*. There appears to have been no dissection, and we are left to conjecture that Bell died by some form of apoplexy. We wish that in this case, but more particularly in Trickey's, the medical

* Beck's Medical Jurisprudence, 5th edit. p. 551.

* Times, Nov. 28th, 1838.

evidence was published by the practitioners who gave it, as it is not very easy to collect from the reports, what they really said.

THE LATE M. BROUSSAIS.

The death of this distinguished physician, which we announced last week, took place at his country house at Vitry. His immediate decease was rather sudden, but he had long laboured under cancer of the rectum.

Broussais was born at St. Malo, in December, 1772, and was therefore sixty-six years of age when he died. In 1792 he entered the army as a private soldier, but soon afterwards became an *officier de santé*. He subsequently served in a trading vessel during a period of six years, after which he went to Paris, and graduated as Doctor in Medicine. His thesis was on Hectic Fever, and was dedicated to Pinel.

Subsequently to this he followed the campaigns in Holland, Germany, and Spain; and it is said to have been amid the fatigues of military service that he conceived the plan of the work to which he owes his celebrity—the History of Chronic Phlegmasiæ. Of this the fifth edition was published in Paris during the current year.

Broussais was Physician-in-chief to the Val-de-Grace; Professor of General Pathology in the Ecole-de-Médecine; and a Commander of the Legion of Honour. His appointments brought him 10,000 fr. per annum.

He was attended in his last illness by M. Amussat, and when arrested by death was actively engaged in a reply to the Memoir of M. Jouffroy against Phrenology, and in preparing a new edition of his work on Irritation and Insanity. There was a rumour, arising probably from the abruptness of his death, that he had been poisoned; but there seems to have been no ground for such a suspicion, and it appears to have speedily subsided.

M. Broussais was buried on the 21st of November, on which occasion all the usual display and parade which mark such scenes in Paris were exhibited. A crowd of practitioners and pupils were assembled in the Rue d'Enfer; military medical officers, and the members of the Ecole, in their official dresses; deputations from the Academy of Sciences and of Medicine were in attendance, to say nothing of a detachment of troops. This imposing *cortège* proceeded to the Val-de-Grace, MM. Larrey, Orfila, Boissy d'Anglas, and Droz, being the pall-bearers. Divine service having been performed in the chapel, the procession proceeded, the students having taken out the horses, and dragging the hearse all the way to Père-la-Chaise.

Discourses were pronounced over the grave by MM. Droz and Arago, in the name of the Institute; M. Larrey (*fils*), on the part of the military medical officers; and M. Bouillaud, on that of the Ecole de Médecine.

The officers at the Val-de-Grace propose to go into mourning for a month, as a testimony of their affectionate respect for the deceased.

WESTMINSTER HOSPITAL.

Clinical Lecture by Jno. Burne, M.D.

October 29th, 1838.

Nephritis, Anasarca, Albuminous Urine, Pneumonia.—Chronic Renal Anasarca, Albuminous Urine, Bitartrate of Potass.—Ascites, Anasarca, removed by Bitartrate of Potass.

Gentlemen,—Associated with the case of nephritis and anasarca, which formed the subject of last week's lecture, is that of Isaac Bailey, also labouring under nephritis and anasarca, but complicated with pneumonia.

Case XVII.—*Nephritis, Anasarca, Albuminous Urine, Subacute Pneumonia.*

Isaac Bailey, aged 42, a labourer, whose health was generally good, with the exception of having been liable to a cough on taking cold, for the last five or six years.

About the 22nd of September, 1838, he got wet in the feet from washing casks, after which he had a diarrhœa, and then tightness across the chest, short breath on exertion, and cough. On the ninth day after having got wet, the scrotum swelled, and the face and hands began to be œdematous.

On the 12th of October he was admitted into the hospital, affected with œdema of the scrotum, penis, face, and lower extremities; of the trunk, also, in some degree, and complained of fulness of the epigastrium and abdomen. The appetite was good, but he felt full and bloated after eating; the urine brown red, dingy, highly albuminous.

Capiat Elaterii, gr. ½, mane quotidie.

Oct 15th.—The urine less brown; the oppression at the chest continues, and the cough is troublesome.

Sanguis è brachio ad ℥viij. detrahatur. Perstet.

18th.—The blood not buffed; the serum pale; the chest relieved by the loss of blood. He felt "lighter," and hungry immediately afterwards. The anasarcous swellings begin to diminish; full diet, at his own request.

21st.—The elaterium, which has been persevered in, purges him twelve or fourteen times a day, and at first vomited him also. The dejections are watery and copious; the anasarca not further diminished since last report; but the urine has lost the red brown colour, and is now of dingy straw colour, opalescent, acid, and equally albuminous. He complains of renewed tightness across the chest; dyspnœa, so as to prevent him lying down, and of a troublesome harsh jarring cough, which is worse at night.

Auscultation.—Left lung; crepitating wheeze posteriorly and inferiorly. Right lung; respiration bronchial, with dry valvular, and rather hissing wheeze here and there on expiration.

Diagnosis.—Inflammation of inferior lobe of left lung, and bronchial congestion of the right lung.

Omittatur Elaterium. Sanguis ad ℥viij. mittatur.

℞ Antim. Potassio Tart. gr. ¼; Hydrarg. Chloridi gr. j. M. 4ta quaque horâ.

22nd.—Immediate relief followed the blood-letting: the respiration has become freer, the cough is less jarring, and he is able to lie down. No buff on the blood; the serum pale, and rather abundant.

Perstet.

23d.—The mouth become sore already from the calomel.

Hydrargyrum omittatur. Antimonium repetatur, 6ta quaquâ horâ.

28th.—The soreness of the mouth increased to profuse salivation, notwithstanding only ten grains of calomel have been taken. The cough is very much better, and the breathing nearly as well as usual. The crepitation is no longer heard, but is replaced by bronchial respiration; the wheeze of the right lung has subsided, and respiration is less bronchial and more vesicular. The dropsical swellings have diminished gradually for the last seven days. The antimony was omitted on the 25th; and the discharge from the mouth being very great, no other medicine was prescribed than

Sulphuris gr. v. bis quotidie. Pulv. Jalapæ Comp. ℥ss. prout res postulat.

In this case of Isaac Bailey there was the same pathological condition of the kidneys as existed in Richard Wood, and the same dropsical infiltration; but in Bailey the renal disease became complicated with a pneumonia, which adds to the difficulty of cure.

The anasarca supervened on the ninth day after the accidental cause, but he did not come under treatment till the twentieth day, when the dropsy had consequently existed eleven days.

It is remarkable how little pain attends these cases of nephritis in general; so that on inquiring of the patient the history and early or present symptoms of his case, the chance is that he will not allude to the back or kidneys, unless his attention is called to the subject, and then he remembers to have felt more or less pain in the loins quickly after the exposure, but which pain was never regarded by him as a feature of his complaint. Neither is there irritation of the urinary organs; nor does he of himself offer any remark relative to the altered quantity or condition of the urine. It is not, therefore, until the dropsy has actually appeared, that any renal affection is suspected. The urine is then examined, found to be albuminous, and the kidneys thus discovered to be diseased; so that not only days, but, as in the case (XVI.) of Richard Wood, even weeks may elapse before the organic affection comes under treatment; all which time the structure of the kidneys is being impaired; and the impairment may have proceeded to an extent absolutely irremediable, before any efforts are employed for its arrest or relief.

If, then, in the early stage, before dropsy has supervened, there are no local signs by which to determine the presence of a nephritis, on what can we rely? On the urine only. If a healthy person, having taken cold, is seized with rigors, followed by febrile movement, and if his urine gives evidence of the presence of albumen or of blood, you may regard this sign as pathognomonic of inflammation of the substance of the kidneys, and have recourse to antiphlogistic measures accordingly. Could the renal inflammation be discovered thus early, and treated with decision, there is every reason to hope that it might be arrested and subdued, and the structure of the kidneys saved from disorganization; but if the disease has not been suspected till the dropsy has supervened, much time and fair opportunity may have been lost; for experience leads me to the sad conclusion, that if the renal affection, as indicated by the albuminous urine, has existed one *month* from its first invasion, the granular disorganization will have already advanced to a degree *incu-*

rable; and that although by treatment the dropsy may be removed, the disease will not be eradicated, the urine will still remain albuminous, the dropsy will assuredly return, and lead, within six or twelve months probably, to a fatal termination.

The treatment must depend entirely on the stage of the disease.

Regarding the disease at the outset as a pathological congestion or inflammation, this state of inflammation may be considered the *first* stage. The inflammation still continuing, but now subacuto-chronic, and morbid deposit taking place in the proper tissue of the kidneys, may be considered the *second* stage; and at a later period, the kidneys having become loaded with the morbid deposit, and beginning to be indurated, the inflammation having subsided altogether, may be considered the *third* stage. The *fourth* and last stage is that in which induration, accompanied with atrophy, has advanced to the greatest degree, the kidneys having acquired a gristly hardness, and having wasted to half their normal size. This morbid change in the structure of the kidneys assumes a *granular* form, and is hence called the granular disease of the kidneys. The morbid deposit, the product of the inflammation, is not organizable; and therefore, although in the first stage you have the kidneys in the state of the intense vascularity of inflammation, yet this diminishes as the morbid deposit takes place, so that in the third stage the kidneys are less vascular than natural; their proper tissue consequently pale instead of red-brown; and injections no longer penetrate, as in the healthy organ. In these drawings the appearances of the kidneys in the various stages are well delineated.

It is clear, then, that antiphlogistic measures can only be employed with vigour and with success in the first stage; but, inasmuch as the dropsy supervenes at such various and uncertain periods from the nephritic attack, the dropsy is an uncertain criterion of the stages. The best evidence to guide you is the time that has elapsed since the seizure; and in proportion as this is short, so may you have recourse to the abstraction of blood; in proportion as it is long, so must blood be drawn less freely. In the cases of Wood and Bailey, for example, the blood-letting was to the extent of only ten or eight ounces, once in the former patient, twice in the latter; and the watery appearance of the serum, especially at the second bleeding of Bailey, and the progress of the cases since the blood-letting, afford no cause of regret that more blood was not drawn; on the contrary, harm would, I think, have resulted had blood-letting been persevered in. If these cases had come under my care within a week after the invasion of the nephritis, as indicated by the accidental exciting cause and the albuminous urine, I should have bled the patients largely and repeatedly, in the hope of averting that termination which I fear both are destined to experience. In addition to blood-letting, hot baths at this period may be a valuable auxiliary in the treatment.

Mercury is a remedy of doubtful efficacy, though so valuable in other organic inflammations. I have observed that these patients become salivated very speedily; that the salivation is often profuse and of long continuance, and the benefit in no way proportionate; yet I should be sorry to discard mercury as a therapeutic agent in renal disease, until I had employed it repeatedly in the inflammatory stage, which yet I have had no opportunity of doing.

Beyond these remedies, elaterium, where the dropsy has supervened, is valuable, not only as a means of removing the aqueous infiltration, but of determining from the kidneys. Iodine, also, in its various forms, and counter-irritation, deserve a trial in our endeavours to remove the granular deposit, and so to restore the kidneys to their normal structure and function.

The dropsy which results from disease of the kidneys is not merely anasarcous—that is, according to Cullen, "a soft inelastic swelling of a part or of the whole body." It is not limited to the integuments of the body, but may be, and often is, infiltrated into every tissue, and effused into every cavity: it is a universal dropsy, and its character consequently is ill represented by the term "anasarca." I therefore propose the word *cathothydrops*, compounded of the Greek καθολικος, *generalis, universus*, and γδρωψ, *hydrops*; not, however, with any vain desire of introducing a new name, but really with a view to furnish one which shall represent truly this condition of universal dropsy.

The subacute pneumonia which supervened a few days after Bailey was admitted into the hospital yielded readily to the loss of blood, aided by the calomel and antimony. It is not uncommon in these cases of renal dropsy for an intense organic inflammation to attack the patient most suddenly, and to prove fatal in a very few days. I have seen this occur, without being able to trace it to any exciting cause.

The next case which I shall present to you is also one of renal anasarca, not recent, but of long standing, in which the

efficacy of the bitartrate of potass, in removing the dropsical infiltration, is remarkable.

CASE XVIII.—*Chronic Renal Anasarca removed by Bitartrate of Potash.*

Thomas Oliver, aged 29, a milkman, an out-patient.

History.—In the spring of 1837, he caught cold, and was seized with severe pain across the kidneys, violent cough, general indisposition, and swellings of the legs. The cough continued for three months, and then left him: the swellings were removed entirely by a slight salivation, and he considered himself well.

In the autumn of the same year the pain in the back and swelling returned, in consequence of a cold; the swelling hitherto having been limited to the ankles.

1838.—He applied as an out-patient at the hospital on the 4th of January last, at which time he had anasarcous swelling of the lower extremities and scrotum; but his bodily health was, according to his own report, as good as ever; the appetite being good, and he without complaint, except the dropsical swelling.

He was of middle stature, 29 years of age, rather thin and sallow: he had formerly been a sailor on the Mediterranean station, but had not suffered from serious illness at any period of his life.

The urine was pretty clear, of a greenish tinge, highly acid, and albuminous.

He took various medicines of a purgative and diuretic kind for nearly a month without relief; when the bitartrate of potass, in the dose of ʒii. three times a day, was prescribed. This had an immediate effect on the kidneys, and the dropsical swellings of the lower extremities and scrotum disappeared in three days, much to my surprise. He continued the medicine for some time, and was discharged at his own request, believing himself cured.

At the latter end of March the anasarca returned; he resumed the bitartrate, which dissipated it as rapidly as before. He said he could observe a diminution of the swelling after a single dose.

Again, in June, the dropsy returned, and again was removed by the same means.

He is now, October, under treatment a fourth time, and as before, receiving benefit from the same remedy, but the urine continues to be albuminous—a character which it has never lost since he came under my care.

When Oliver first applied for relief as an out-patient I had no opportunity of testing his urine; and from his sallow complexion, I thought the dropsy might be connected with lesion of the liver, perhaps of the heart, both which organs I examined without finding any evidence of disease. I desired him to bring some urine on the next day of attendance; which urine, being tested, gave unequivocal signs of albumen; and thus cleared up all doubt as to the nature of the case. It may be concluded that he is affected with granular disease of the kidneys, arrived at the third stage.

The relief which he experiences, however complete as respects the dropsy, will be only temporary, the removal of the cause being beyond the reach of medicine.

In another case which you have recently witnessed, the bitartrate of potass was equally efficacious, in dissipating not only an anasarca but an ascites; the dropsy not being renal, but proceeding from disease of the heart, and perhaps also of the liver.

CASE XIX.—*Ascites—Anasarca removed by Bitartrate of Potass.*

Mary Ewart, aged 42, admitted on the 17th of June, 1838; a married woman who had borne nine children, the youngest being 13 months old; she was emaciated, and had the linear aspect of visceral disease.

She laboured under ascites, also anasarca of the lower extremities and pudenda, and shortness of breath; and her appetite and general health were bad. The action of the heart was strong, irregular, and intermitting; while the pulse was small and weak. The urine was high-coloured, clear, scanty, free from albumen.

During the first fortnight she took several diuretic and purgative medicines, without effect upon the dropsy, and without benefit to her health. I then prescribed

℞ Potassæ Bitartratis, ʒss.; Sp. Æther. Nitrici, f. ʒss.; Tinct. Scilla, f. 3ii.; Mist. Camphoræ, f. ʒvii. M. ʒj. ter quotidie.

The effect of which was to produce an almost immediate increase in the urine, and improvement in the appetite and general health. The anasarcous swellings of the extremities and pudenda passed away, and the ascites gradually diminished, so that on the 17th of July she was free from all signs of dropsy, and in comparatively good health; the state of the heart and circulation remaining unaltered, though the respiration was no longer embarrassed. She continued the medicine for some time after her discharge from the hospital; but having left it off, the urine began to diminish soon afterwards, and the dropsy threatened to return. She had again re-

course to the bitartrate, which promoted the urine as before, kept her free from dropsy, and in good bodily health when I last saw her, on the 10th of September.

The dropsy was here dependent mainly on the disease of the heart and arteries: though, from her appearance, it is probable that the liver was in some degree indurated, and might have aided in producing the ascites. Be that as it may, the ascites and the anasarca both disappeared under the use of the bitartrate of potass. As in the former case, so here the relief is only temporary; the dropsy, though removed, will return, the cause persisting. In all cases of this description, where the organic mischief is irreparable, we can only direct our measures to the removal and the prevention of consequences.

There is no class of remedies so capricious in their operation as diuretics. On one occasion, the diuretic will succeed; and when next tried, under similar circumstances, will fail altogether. When the object in the treatment is to promote the secretion of urine, all the diuretics should be tried in succession, not disregarding the most simple and vulgar; for I have seen all combinations tried in vain, and *leek* tea, taken at the suggestion of an old woman, cause the kidneys to secrete gallons in the twenty-four hours, and dissipate an anasarca. Unquestionably the favourite combination of squill, digitalis, and blue pill, is on the whole the most certain and efficacious, but it fails constantly; and then we must use in succession all which the materia medica and the herbalist supply.

The late Sir William Knighton told me one day, when we were conversing on medical subjects, that he had often found digitalis act, if ammonia was given in conjunction, but inert when given alone. Remembering this hint, I have latterly combined the ammonia with other vegetable diuretics; the influence of which it has materially aided. At this time I have a gentleman under my care with ascites, who had taken various diuretics without promoting the action of the kidneys: at length the scoparium was tried, also without effect, till six or seven grains of the sesquicarbonate of ammonia were added to each dose. The secretion of urine then increased considerably, and the size of the abdomen diminished three inches in the course of a week.

WESTMINSTER MEDICAL SOCIETY.

November 17, 1838.

Dr. Chowne, President, in the Chair.

Dropsy of the Womb.—Vulgar prejudice in favour of Bleeding in cases of Sudden Accident.—Vaginal Hernia.

Dr. Reid related the case of a woman about 26 years old, who had arrived at the full period of utero-gestation in good health, till the last three days, when she entertained a presentiment that she should not survive her accouchment, and she made preparations for her death. On the 6th day of November instant labour-pains came on, and remained some hours without producing any effect on the os tincæ. The midwife in charge at length gave thirty drops of laudanum, and thus succeeded in arresting the pains. On the 7th, the bowels being bound, an ounce dose of castor oil was given, and repeated every four hours for several times without any effect.

On the 8th the patient was taken into St. Giles's Infirmary, at 3 P.M., but the labour-pains had not recurred. Complaining of not having made water, the catheter was introduced, and about two ounces only of urine were withdrawn. Warm laxative injections were thrown up the rectum without benefit. During the night of the 9th she had slight pains in the loins, but the bowels were still unmoved. Dr. Reid saw the woman for the first time on the 10th, at 11 A.M., and found her feverish. She had pain on pressing the upper part of the abdomen The belly was very prominent, and the infant could be distinctly perceived through the walls. The fœtal pulse was ascertained by the stethoscope to be 140. Examination per vaginam exhibited the os uteri dilated to the diameter of an inch; the membranes were tense, and the child's head receded when touched by the finger. The lips of the os tincæ were thick, but healthy. He inferred that there existed a large quantity of the liquor amnii, and perhaps twins.

Dr. Reid ordered a clyster with castor oil to be injected without delay, and an aperient dose to be given every four hours. No result, however, was produced; labour-pains came on sharply in the afternoon; and between six and seven o'clock in the evening the os uteri was well dilated. The pains became more and more energetic, and an average-sized living child was expelled. The membranes did not break until the occurrence of the last pain, when two gallons of the liquor

amnii escaped from the womb. It was caught in a pail and measured. There was no hæmorrhage. The placenta came away in twenty minutes, and the womb contracted regularly, but the upper region of the abdomen remained large, and there was fluctuation perceptible. The patient was for two hours very comfortable, but after this lapse of time she became restless. The resident surgeon finding her low, gave her hot brandy and water; and hot flannels were wrapt round the feet.

At 11 P.M., Dr. Reid found the patient pulseless, and her extremities cold; she was restless, throwing her limbs about incessantly. She refused all stimulants, and would take nothing but cold water; after this she vomited frequently, her breathing became heavy, but she complained of no pain whatsoever. Dr. Reid found the uterus well contracted. There was no hæmorrhage, nor further discharge of fluid. She died at one o'clock in the morning. Her friends removed her body to her own habitation, and a large quantity of water escaped into the shell where she lay. When the undertaker moved her into her coffin, he was obliged to bore holes into the bottom, that the fluid might run off. At this period, large quantities of excrement passed from her, and she became so offensive that her friends buried her the day after her demise.

No autopsy being permitted, Dr. Reid felt doubtful as to the cause of death. After the discharge of the liquor amnii, the patient did not complain of faintness, or any other unpleasant symptom. After the uterus was well contracted, there was a great discharge of water from that viscus. Could this have been a case of uterine dropsy, complicated with ovarian dropsy or ascites? and could the fluid from the abdomen or ovary escape by the fallopian tubes into the uterus? Instances of this description were on record, but Dr. Reid had not read of any cases exactly similar to the one just sketched. Dr. Ramsbotham had recorded a case of ascites during pregnancy, where tapping had been resorted to, in consequence of urgent symptoms previous to parturition. The obstinate constipation in this case he thought was dependent upon the lateral pressure of the fluid upon the bowels.

This history provoking no discussion, Mr. Smith reported a case of ulceration of the ileum, which was concomitant with the subsistence in that bowel of a large *lumbricus teres*. This parasite was discharged a short time before the death of the patient from peritonitis.

Mr. Pettigrew had seen several cases in which the lumbricus teres was the cause of ulceration of the mucous membrane.

Dr. Johnson thought Mr. Pettigrew rather peremptory in his opinion; his own experience did not lead him to the same conclusion, for he considered the ulceration would act as a cause for the expulsion of the worm, whose food was the natural secretion of the mucous lining, not the purulent secretion of an ulcer. The existence of the peritonitis was quite sufficient cause to produce the dislodgement of this class of parasites, by the increased peristaltic action which it excited.

Mr. Bushel related a case in which he had known the side of the bowel penetrated by a lumbricus teres. There was simply a perforation, without any ulceration.

A slight discussion occurring touching the value of the *hymen* as a sign of virginity, Mr. Streeter gave the history of a case in which the hymen obstructed the delivery of a respectable married woman, at her full period of gestation. Mr. Streeter was at first a little puzzled, but having by examination satisfied himself that it was the hymen, very tough, and with an aperture in its centre large enough to receive the tip of the index finger, he divided the obstructing membrane with a pair of scissors, and the child, breech foremost, was easily protruded.

Mr. Davey, a respectable practitioner residing in the neighbourhood of Manchester Square, applied for advice to the Society as to his future conduct in an unpleasant emergency in which he had become implicated. Some days since he had been called to a stranger, who had become suddenly affected with asthmatic dyspnœa. He had given him an antispasmodic remedy, and the patient perfectly recovered apparently, and returned to his home in a distant part of the town. Soon after his return he died, and two medical men being called in, declared it as their opinion that the man died because he had not been bled. Mr. Davey was of opinion that the patient was not in a condition to stand bleeding, for he was aged, and suffered from what he considered to be asthma, complicated probably with some disease of the heart or great blood-vessels. The pulse was powerless. The opinion of these medical men had travelled to Mr. Davey's neighbourhood, and there spread like wildfire, injuring him very much in the opinion of his neighbours. Mr. Davey insisted upon having a coroner's inquest upon the body. The court assembled, and refused admittance to a medical friend of Mr. Davey's, who was desirous of affording the jury some explanation of the circumstances of the case. They gave a verdict of "died

by the visitation of God," and the prejudice against Mr. Davey, in his own neighbourhood, remained as strong as ever.

Some observations on this case followed; but Dr. Chowne, the President, now interfered, observing that the subject under discussion was of a medico-political character, and therefore forbidden by the laws of the Society.

Dr. Johnson narrated the history of a case to which he had been called two or three days previously at Pentonville. The patient, a woman, had for some days been confined to her bed, with severe pains in the loins. The day before he saw her, she had walked out. At the first interview she was in great distress, and told the doctor that "her womb was in the world." On examination, he discovered a tumor, like the head of a child, protruding from the vulva. It was soft and elastic, and the Doctor was at first induced to think it was the bladder. It gave way upon gentle pressure, and then he was enabled to detect the uterus and bladder *in sitû*. The tumor, in his opinion, was a hernia of the rectum pressing forward the posterior wall of the vagina through the vulva. On withdrawing the hand, the swelling again protruded. He placed the patient in a recumbent posture, and introduced a large sponge into the vagina. This was to be followed by the use of an astringent wash. He (Dr. Johnson) would be glad to know if the learned president, Dr. Chowne, had met with a similar case in his extensive experience.

Dr. Chowne said that if he had been called in to such a case, or had heard it described in the same terms as Dr. Johnson had used, without the opinion which Dr. J. had given, he should unhesitatingly have pronounced the case to be one of vaginal hernia, in which the small intestines passing down between the uterus and rectum, carried forward the back wall of the vagina, and formed a hernial pouch at the opening of the vulva. He had seen many such cases, but he had never seen one of prolapsus of the rectum, which was an affection of extreme rarity. However, he had so much respect for Dr. Johnson's diagnostic powers, that he should be sorry to put his own opinion against his.

A member inquired of Dr. Johnson whether he had passed his finger into the rectum of the patient during the protrusion, as that would have been an *experimentum crucis*, and would have left no doubt upon the point.

Dr. Johnson said he had not done so when the rectum was dislocated, and he did not think it prudent to let it prolapse again for the sole purpose of passing his finger into the rectum. Sir Astley Cooper had published a case similar to the one he had just described.

Mr. Snow had once seen a case, which had occurred during labour, of prolapsus of the walls of the vagina all round, presenting at the vulva like the head of a fœtus. He reduced the parts by gradual pressure. The hour (10 P.M.) having arrived, the President struck the table with his mallet, and the meeting broke up.

IDIOS.

TREATMENT OF BURNS.

To the Editor of the Medical Gazette.

SIR,

IN Mr. Meade's interesting paper on the treatment of burns and scalds, I find he cannot see the analogy between Dr. Greenhow's practice and my own. If he will take the trouble to reperuse my paper, he will find me to state in the fourth line—"and was forcibly struck with the coincidence of his practice (Dr. Greenhow's) and my own for several years past, varying only *in the nature of the composition used.*" By this statement the tenets which Mr. Meade has advanced, shewing treacle to differ in its action from Dr. Greenhow's stimulating composition, is admitted; and again, at page 192, column 2, he will find, "where vesication is large and extensive, I prefer a thick coating of treacle upon the part, and afterwards envelop it with *cat* paper" (vulgarly so called; tissue is a better substitute. If suppuration does not occur, I wash the treacle off in five or six days, and generally find the part well.) A thick coating of treacle, in my humble opinion, is analogous to a thick coating of the stimulating composition used by Dr. Greenhow, and answers the same useful purpose of preventing contact of the burnt surface and atmospheric air. I have tried it in this manner in deep burns, but cannot recommend its use in these cases.

If Mr. Meade will give the treacle dressings a fair trial, and use them only in the cases I have spoken of, he will not only be an advocate of their virtues, but extol them as a boon to the philanthropic inquirer.—I am, sir,

Your obedient servant,

JESSE LEACH.

Heywood, Lancashire,
November 21, 1838.

OF

DRUGS ON SALE IN THE ENGLISH MARKET,

With their Prices and several Duties.

(From the Official Returns, November 27, 1838.)

	Price.			Duty.		Duty Paid.	
						In 1838 to last week.	Same time last year.
	£ s. d.		£ s. d.	s. d.			
Aloes, Barbadoes, D.P. c	12 0 0	to	30 0 0				
Hepatic (dry) BD..... c	5 0 0		14 0 0	B P. lb 0 2		98,329	104,952
Cape, BD. c	2 7 0		——	F. lb 0 8			
Anise, Oil of, German, D.P.... lb	0 9 6		0 9 6	F. lb 1 4		133	251
E. I. ..... lb	0 6 0		0 6 0	E. I. 1 4		1,742	2,269
Asafœtida, B.D. c	2 10 0		5 0 0	c 6 0		60	34
Balsam, Canada, D.P. ..... lb	0 1 3		0 1 4	lb 0 1		6,470	1,502
Copaiba, BD. ..... lb	0 5 4		——	c 4 0		250	262
Peru, BD. ..... lb	0 4 0		——	lb 1 0		1,798	942
Benzoin (best) BD..... c	25 0 0		50 0 0	c 4 0		103	145
Camphor, unrefined, BD..... c	8 10 0		——	c 1 0		524	465
Cantharides, D.P. ..... lb	0 5 3		0 5 6	lb 1 0		13,288	22,953
Carraway, Oil of, D.P. ..... lb	0 8 0		0 8 6	lb 4 0		1,298	1,603
Cascarilla or Eleutheria Bark, D.P.C.	3 10 0		——	lb 0 1		4,579	3,483
Cassia, Oil of, BD..... lb	0 6 6		0 6 6	lb 1 4		4,083	3,412
Castor Oil, East India, BD ..... lb	0 0 4		0 0 9	c 1 3		5,158	6,072
West I. (bottle) D.P. 1½ lb	——		——	——			
Castoreum, American ..... lb	0 17 0		0 18 0				
D.P. Hudson's Bay ..... lb	0 18 0		1 0 0	lb 0 6		782	242
Russian..... lb	none						
Catechu, BD. Pale c	1 2 0		——				
Dark	3 0 0		——	c 1 0		33,274	27,632
Cinchona Bark, Pale (Crown).... lb	0 2 0		0 3 6				
BD. Red ..... lb	0 2 0		0 4 0	lb 0 1		106,738	121,956
Yellow ..... lb	0 3 6		0 3 8				
Colocynth, Turkey ..... lb	0 2 6		0 4 0	lb 0 2		13,183	9,757
D.P. Mogadore ..... lb	0 3 0		——				
Calumba Root, BD. c	0 12 0		1 15 0	lb 0 2		19,805	11,033
Cubebs, BD. c	3 15 0		4 0 0	lb 0 6		26,272	33,262
Gamboge, BD. c	5 0 0		15 0 0	c 4 0		90	88
Gentian, D.P. c	1 4 0		——	c 4 0		482	430
Guaiacum, D.P..... lb	0 1 0		0 1 8	c 6 0		40	54
Gum Arabic, Turkey, fine, D.P... c	10 0 0		10 10 0				
Do. seconds, D.P. .. c	7 7 0		7 10 0	c 6 0		8,034	4,737
Barbary, brown, BD. c	2 0 0		——				
Do. white, D.P..... c	4 10 0		——				
E. I. fine yellow, BD. c	2 14 0		3 0 0	c 6 0		6,249	2,555
Do. dark brown, B.D. c	1 15 0		2 5 0				
—— Senegal garblings, D.P. c	3 6 0		——	c 6 0		21,637	4,095
—— Tragacanth, D.P. c	8 0 0		12 0 0	c 6 0		453	388
Iceland Moss (Lichen), D.P. .... lb	0 0 2½		0 0 3	lb 0 1		5,179	12,243
Ipecacuanha Root, B.D. ..... lb	0 1 9		0 2 0	lb 1 0		11,970	10,547
Jalap, BD. ..... lb	0 2 6		0 2 8	lb 0 6		42,159	50,629
Manna, flaky, BD. ..... lb	0 4 0		0 5 6	lb 0 3		11,842	19,165
Sicilian, BD. ..... lb	0 1 7		——				
Musk, China, BD. ..... oz	1 0 0		1 8 0	oz 6 0		2,256	19,531
Myrrh, East India, BD. c	5 0 0		14 0 0	c 6 0		161	132
Turkey, BD..... c	2 0 0		11 10 0				
Nux Vomica, BD..... lb	0 8 0		0 9 0	lb 2 6		740	1,273
Opium, Turkey, BD. ..... lb	0 14 6		——	lb 1 0		27,853	35,511
Peppermint, Oil of, F. BD..... lb	1 0 0		——	lb 4 0		973	1,041
Quicksilver, BD. ..... lb	0 3 8		——	lb 0 1		370,739	292,951
Rhubarb, East India, BD..... lb	0 2 6		0 4 0	lb 1 0		34,432	40,764
Dutch, trimmed, D.P. lb	0 3 6		0 5 0	F. lb 1 0		6,345	5,873
Russian, BD. ..... lb	0 8 3		——				
Saffron, French, BD. ..... lb	0 18 0		——	lb 1 0		4,598	4,911
Spanish ..... lb	0 19 0		1 0 0				
Sarsaparilla, Honduras, BD..... lb	0 1 0		0 1 9	lb 0 6		108,611	98,510
Lisbon, BD. ..... lb	0 2 0		——				
Scammony, Smyrna, D.P..... lb	——		——	lb 2 6		6,459	7,232
Aleppo ..... lb	0 18 0		1 0 0				
Senna, East India, BD. ..... lb	0 0 3		0 0 4	E.I. lb 0 6		66,259	92,442
Alexandria, D.P..... lb	0 1 9		0 1 10				
Smyrna, D.P. ..... lb	0 1 0		0 1 3	Other sorts 0 6		64,239	50,895
Tripoli, D.P. ..... lb	0 1 0		0 1 3				

‡§‡ BD. In Bond.—c. Cwt.—B. P. British Possessions.—F. Foreign.—D. P. Duty paid.

BLOWING HOT AND COLD ON DR. JACOB.

(From a Correspondent.)

LANCET *of 17th November*, 1838.

NOTE to page 306 (referring to Dr. Jacob's lecture in Dublin),—"On looking over this *precious* document, we find that it is a *radical* Address by Professor Arthur, which had found its way, by mistake, we suppose, into the *Protestant* Guardian—*Fas est et ab hoste.*—ED. L."

LANCET *of November* 24, 1838.

Page 351,—"The substance of an Address* which has just been delivered in the same place by Professor Jacob, is not less worthy of the notice of the friends of an *improved* system of government in medicine. We shall with much *satisfaction* find a place for it in the next Lancet."

How is this change of tone in the two editorial articles on the *same* Address, within the space of eight days, to be accounted for?

DEATH FROM SUFFOCATION MISTAKEN FOR APOPLEXY.

AN inquest was recently held at the Marlborough Head, Shadwell, on the body of a man, named Sullivan, a cabman, aged 45. It appeared that on the preceding evening, while partaking of a repast at an eating-house in the Back Road, he was suddenly seized with a sort of fit or spasm, and left the room. On getting outside of the door he became sick, and in a few minutes dropped down in a state of insensibility. He died immediately afterwards. The medical gentleman, to whose residence he had been conveyed, gave it as his opinion that he had died of apoplexy. The coroner, however, here remarked, that in the course of his official experience, two or three cases of a similar nature to the present had come before him, in which he felt it to be his duty to direct the professional witness to open the gullet of the person deceased, and, on this being done, it was satisfactorily proved, by the fact of large morsels of meat being closely fixed therein, that the parties had died of suffocation; and he should not be surprised if such should turn out to be the fact in the instance before them. The medical witness then, at the request of the coroner and jury, proceeded to the place where the body was deposited, and in a short time returned with two large gristly pieces of boiled beef, weighing about three ounces, which he found blocking up the œsophagus, and which he thought sufficient to have caused the death of the deceased by suffocation. A verdict to that effect was returned accordingly.

* Qu.

BOOKS RECEIVED FOR REVIEW.

The Chirurgico-Comico Alphabet. By Pill-Box. [The author of this attempt at humour has most lamentably mistaken his *forte*.]

The Medical Annual, or British Medical Almanack for 1839. Edited by William Farr. [Useful, and well worth purchasing, but having the same imperfection as in former years.]

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, November 29.

Edward Thomas Roe, Clifton, Bristol.—Thos. Cook, Bocking, Essex.—John Mitford Ling, Benhall, Suffolk.—William Gylby, East Retford, Notts.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *Nov.* 27, 1838.

Abscess	1	Inflammation	19
Age and Debility	32	Brain	6
Apoplexy	3	Lungs and Pleura	13
Asthma	12	Influenza	1
Consumption	32	Insanity	5
Convulsions	14	Liver, diseased	1
Dentition or Teething	4	Measles	2
Dropsy	6	Mortification	2
Dropsy in the Brain	1	Paralysis	2
Erysipelas	2	Rheumatism	1
Fever	7	Small-pox	5
Fever, Scarlet	6	Tumor	1
Fever, Typhus	2	Unknown Causes	66
Heart, diseased	1		
Hooping Cough	5	Casualties	6

Increase of Burials, as compared with the preceding week . . . 17

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

November.	THERMOMETER.		BAROMETER.	
Thursday . 22	from 38	to 46	29·18	to 29·28
Friday . . 23	34	47	29 40	29·48
Saturday . 24	34·5	42	29·49	29·70
Sunday . . 25	24	36	29 87	29·94
Monday . . 26	24·5	33	29 84	29·77
Tuesday . . 27	24	35	29·53	29·33
Wednesday 28	31·5	51	29·08	28 65

Winds, N.E. and S.E.

Except the 25th and following day, generally cloudy: rain on the 22nd, 27th, and 28th; a halo round the moon on the evening of the 25th. On the afternoon of the 20th, from about half-past five to six, the wind blew with great violence from the South, accompanied with rain and hail; lightning in the evening; the barometer remarkably low.

Rain fallen, ·105 of an inch.

CHARLES HENRY ADAMS.

WILSON & SON, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, DECEMBER 8, 1838.

AN

INTRODUCTORY DISCOURSE

ON THE

STUDIES REQUIRED FOR THE MEDICAL PROFESSION.

ADDRESSED TO THE STUDENTS OF THE MEDICAL SCHOOL OF ST. GEORGE'S HOSPITAL,

October 1, 1838.

By Sir B. C. Brodie, Bart., F.R.S.

Serjeant-Surgeon to the Queen, and Surgeon to St. George's Hospital.

Gentlemen,—There are very few departments of human knowledge which may not be cultivated, with more or less advantage, by those who are engaged in the pursuit of the medical profession. The phenomena of muscular action cannot be comprehended by one who has paid no attention to the study of mechanics. Without some acquaintance with the phenomena and laws of light, you will in vain endeavour to understand the physiology of the eye, and the treatment of its diseases. The classification of the various textures of the body; the changes produced in the animal fluids by respiration and secretion; the composition and exhibition of medicines;—these things must be altogether mysteries to those who have not applied themselves to chemistry. I cannot believe that any one is really qualified to undertake the management of cases of mania and imbecility of mind, who has not studied the mind in its natural and healthy state, and endeavoured to analyse his own intellectual and moral faculties. The stores of medical experience accumulated in former ages, and even the comparatively modern works of the great Haller, replete as they are with the most interesting physiological information, are of little avail to those who have no knowledge of the dead languages.

It is not, however, my intention, in this introductory discourse, to enlarge upon these topics. There are some studies peculiar to the medical profession, to which, if you would do justice to the public, and obtain honour for yourselves, you must be especially devoted: which you must prosecute, not carelessly, and as a matter of form, but with zeal and unremitting diligence, through the whole period of what is called your education; and some of them also during the remainder of your professional lives. It is to the method of conducting these important studies that I am now anxious to direct your attention. My object is, in the beginning of your professional career, to place you in the right road; and I trust that the observations which I have to offer, founded as they are on experience, and on an earnest desire for your welfare, may not be unacceptable at the present time, nor be found altogether useless in the future.

In the practice of our art we undertake the cure of disease; and, in saying that we are to use our best endeavours, honestly and conscientiously, for the attainment of this object, we describe the entire duties of a medical practitioner. But for the cure of disease it is not sufficient that we should understand the nature and application of remedies; we must study disease itself, in all the variety of forms under which it may present itself to our notice. And this leads us to another order of inquiries. Disease is the derangement of one or more of the animal functions, in many instances attended with an alteration in the structure of the body; and, if you would understand these subjects, you must first make yourselves acquainted with the structure and functions of the body in its healthy state. Thus you will perceive what are the three principal divisions of

the course of education in which you are now engaged. The first comprehends the science of anatomy and physiology; the second that of pathology, or the science of disease; and in the third division we find whatever relates to medical and surgical treatment.

Let it always be borne in mind that this last is the real object which you have in view. I address you as future medical practitioners. If, taking another course, you choose to study anatomy and physiology, merely as interesting branches of human knowledge, you are at liberty to do so, and you will be as well rewarded for your labours as if you had applied yourselves to geology, optics, or astronomy. In like manner, if any one apply himself, as a philosopher, altogether to the study of pathology, he will find much in it that may interest himself, and that may be useful afterwards to those who carry their researches further. But as medical practitioners, you must not stop at either one or the other of these points; and, never losing sight of the ultimate object of all your investigations, you must estimate the value of whatever other knowledge you acquire, by the degree in which you find it to be directly or indirectly applicable to the healing art.

It is one advantage arising from the peculiar constitution of the London medical schools, that, with few exceptions, the instructions, which you here receive, have, in a greater or less degree, a tendency to practice. The ambition of the teacher of anatomy is not limited to success in his present vocation. He looks forward to the time when his profession as a physician or surgeon will elevate him to fame and fortune. His mind is naturally directed to those inquiries a proficiency in which will most assist him in the attainment of these objects; and that which is useful to himself cannot fail to be useful to his pupils. I have no doubt that the praises which are bestowed on some of the continental anatomists are well founded: that there are universities in which the anatomical professors, devoting their whole time, and industry, and intellect, to this one pursuit, explain the mysteries of minute anatomy at greater length, and with more precision, than the teachers here: but, nevertheless, I assert that ours is the better method with a view to the education of those who wish to become, not mere philosophers, but skilful and useful practitioners.

In like manner, pathology is not taught here as a separate science, but you receive your instructions in it from the lecturers on the practice of physic and surgery, who, while they explain the changes of function or structure, which constitute disease, point out also the symptoms by which the existence of these changes is indicated in the living body, and the means to be employed for the patients' relief. Thus while you are taught pathology, you are taught also its uses and application; and these different subjects, brought under your view at the same time, serve mutually to elucidate each other; for, while pathology assists you in obtaining a knowledge of symptoms, the study of symptoms, and of the operation of remedies, contributes in no small degree to extend your knowledge of pathology.

The education of a medical practitioner, for whatever department of the profession he may be designed, necessarily embraces a variety of subjects. But it is extended over a space of at least three years, and it is of great importance that you should so arrange your studies that no excessive and overpowering demand may be made on your attention at any one period. And here let me advise you to begin with a system of steady application, and to adhere to it throughout. It is not uncommon for medical students, any more than it is for other students, to engage at first with zeal in their pursuits; then, as these lose the charm of novelty, to become careless and indifferent, and at last, when their education is drawing to a close, and it becomes a question how far they are qualified to undergo the required examinations, to endeavour to make up for the time which has been mis-spent and wasted by excessive labour, such as is incompatible with sufficient physical repose and mental relaxation. But it is not in this way that great things are to be accomplished, either in our profession or in any other. Habits of attention which are once lost are not easily regained; and no durable impressions are made upon a mind which is exercised beyond its powers. The slow but persevering tortoise reached the goal before the hare, who was over-confident of the speed which she could exercise if she were required to do so; and this fable, which we were taught in the nursery, conveys a moral lesson which the philosopher need not be ashamed to learn.

The studies which will occupy the principal part of your time are those of anatomy, and of the hospital practice; and you cannot doubt as to which of these has the claim of precedency. I will not say that a student who attends the wards of the hospital in the beginning of his education may not thence obtain some sort of useful practical knowledge; but it is plain that he can profit little by it, compared with one whose mind has been prepared by a previous diligent attendance on the anatomical lectures and dissecting-room. The attendance on anatomical lectures is

necessary for your initiation into the study of anatomy; they give you a general view of what you have to learn, and are, at the same time, the source whence you will derive your principal instructions in physiology. For anatomy and physiology are one science, and to teach them separately is about as absurd as it would be to divide astronomy into two sciences, the one teaching the figure and size of the heavenly bodies, and the other their motions. But to be a good anatomist, the student must labour in the dissecting-room; he must unravel the structures of the human body with his own hands, and examine every thing for himself. The impressions which dissection leaves upon his mind not only are accurate, but they will be lasting: if he trusts to those which he receives from the discourses and exhibitions in the lecture-room, he will find them to be evanescent.

Such is the connexion of the different parts of the animal system, and so dependent are they on each other, that it would be hazardous to regard the knowledge of any one of them as altogether useless. But there are some parts of which a general knowledge is all that is required. It would be an unprofitable waste of time to trace all the artificial divisions which may be made of the deep-seated muscles of the spine, or the varieties which occur in the minute ramifications of the veins and arteries. On the other hand, there are some parts, such as the bones and muscles of the extremities, the distribution of the principal nerves and larger vessels, the structure of the viscera, which cannot be too sedulously and minutely studied; and no one is fitted to undertake the practice of operative surgery who is not familiar with the exact relative situation of the parts concerned in surgical operations.

During the first season of your education, you will find that the labour of acquiring a competent knowledge of anatomy is such that you will have but little time to bestow on other studies. The few among you who have the opportunity of remaining in the schools during a period of five or six years, may do well to devote even two entire winters to anatomy before they begin their attendance on the hospital practice. But I cannot give this advice to the majority of those whom I now address, and whose period of education is more limited. And here let me observe, that it is a great mistake to suppose, after the first anatomical session is over, that it is better for you to defer beginning your attendance on the hospital until the next autumn. You will, in fact, attend the hospital to greater advantage during the summer than at any other time. The same opportunities of experience present themselves at the hospital at one period as at another, and during the summer you can bestow a more undivided attention on what there occurs, than you can during the winter.

While engaged in attendance on the hospital, always bear in mind that there is no one of your other studies which, as to real importance, can compete with this. The lectures on anatomy, chemistry, materia medica, practice of medicine and surgery, and midwifery, are nothing in themselves. They are but the means to an end, and are valuable only because without them you would be unable to learn the symptoms and treatment of diseases in the hospital. I feel it my duty to make this observation, and to make it earnestly, because it appears to me that the truth which it inculcates is not, for the most part, sufficiently impressed on the minds of medical students. Perhaps, however, if strict justice were done to all concerned, and we were to trace this mistake to its origin, we should find that it belongs, not so much to the medical students themselves, as to those by whom their course of education is regulated, and who, by a false estimate of the importance of lectures, and an unnecessary multiplication of the number of them which the students are required to attend, have left an altogether insufficient time for a profitable attendance on the hospital.

Indeed, it is not by going through the form of walking round the wards daily with the physician and surgeon that you will be enabled to avail yourselves of the opportunities of obtaining knowledge which the hospital affords. You should investigate cases for yourselves; you should converse on them with each other; you should take written notes of them in the morning, which you may transcribe in the evening; and in doing so you should make even what are regarded as the more trifling cases the subject of reflection. Some individuals are more, and others are less, endowed by nature with the power of reflection; but there are none in whom this faculty may not be improved by exercise, and whoever neglects it is unfitted for the medical profession.

You will at once be sensible of the great advantage arising from your written notes of cases. But that advantage is not limited to the period of your education. Hereafter, when these faithful records of your experience have accumulated, you will find them to be an important help in your practice; when years have rolled over you, and the multitude of intervening events has obscured the once bright inscriptions on your memory.

Feeling as I do how essential it is, both

to yourselves and to the public, that your hospital studies should be well conducted, I shall proceed to offer some further observations on this subject.

In the first instance, your attention should be directed more to the symptoms and progress of diseases than to their treatment. You should begin with those of the simplest form, as the only means of obtaining that elementary knowledge, without which you will in vain endeavour to comprehend the more complicated and difficult cases. Carrying with you into the wards of the hospital the knowledge which you have acquired in the dissecting-room, you will, in each individual case, make these inquiries:—What is the nature of the disease, considering it anatomically and physiologically, and in what organ is it situated, or has it no distinct locality? If these points can be satisfactorily determined, you will, in most instances at least, have discovered the bond of connexion between the various symptoms; your subsequent investigation of the case will be rendered more simple; and you will be enabled to form a more distinct and rational notion as to the treatment which is required, and the probability of a cure, than you could have formed otherwise. Do not be satisfied with having learned the structure and functions of the body in health, but attend the examination of those who have died of their complaints; and endeavour to associate the symptoms which existed before death with the morbid appearances observed afterwards. The more extended cultivation of morbid anatomy is one of the most peculiar features of modern times. It has laid the foundation of a more accurate system of pathology than that which existed formerly, and has led to many improvements in practice; and it is right that your minds should be impressed with a just sense of its great value and importance.

Having said thus much, I trust that I shall not be considered as under-estimating these researches, in the observations which follow. Morbid anatomy is not pathology, though it is an essential part of it. You may know all that is to be known of the former, and yet your knowledge of the latter may be very limited. To be a pathologist you must study disease in the living body, even more than in the dead. Even in the instance of what we call local diseases, morbid anatomy does not teach us all that we ought to know; but there are many diseases which, as far as we can see, have no absolute locality; and what does it teach us there? In cases of hysteria, gout, fever, and in a number of others which it would be easy to enumerate, the dissection of the dead body furnishes us with little else than negative information; and in some cases, if we trust implicitly to it, morbid anatomy will prove a deceitful guide. Thus, in a patient who has died of continued fever, you find the mucous membrane and glands of the lower portion of the small intestine ulcerated. Your first impression might be that you had discovered the original malady of which the fever was symptomatic. It is only by the investigation of the disease in the living person that you are enabled to satisfy yourselves that the ulcers were the consequence, and not the cause of the fever. The mere morbid anatomist may suppose that in the inflammation of the œsophagus and trachea, he has discovered the essence and real seat of hydrophobia; but a more extended observation teaches you that such inflammation is but a contingency; and that whether it exist in a greater or less degree, there will be the same fatal termination of the patient's sufferings. Then there is an extensive class of diseases in which we may say that there is actually no danger; and of these morbid anatomy can teach us nothing, although we may learn much respecting them, so as to understand their nature sufficiently well, by investigating them in other ways. We know as much of a sick headache as of pulmonary consumption; as much of psoriasis and lepra, as of small-pox and measles.

If you were to trust implicitly to what is taught in books and lectures, you would suppose that you must understand the nature of every case that you meet with, and be able to give it its appropriate appellation. But a very little experience in the hospital will teach you that it is not so in reality. No fault is to be attributed to authors and lecturers; for if they were to attempt to teach the science otherwise, they could not teach it at all. But you must take care that you are not misled, and be prepared to meet with cases of which the nature is doubtful, and even with some which are absolutely unintelligible. Never allow your imagination on these occasions to supply the place of knowledge. It is something to be aware of our own ignorance, which time and observation and reflection may remove, but which is likely to be permanent if we think it necessary to offer a hypothetical explanation of every case which we do not, in the first instance, comprehend.

Although, as I have already observed, the symptoms and progress of diseases claim your first attention, yet you will soon discover that these cannot, in practice, be separated altogether from the study of the means to be employed for their relief; and you must, at an early period of your attendance at the hospital, endea-

vour to form some notion of the principles on which the latter is to be conducted.

The first question, then, which should present itself to you in the management of a particular case, is this:—Is the disease one of which the patient may recover, or is it not? There are, indeed, too many cases in which the patient's condition is so manifestly hopeless that it is impossible for you to overlook it. Let me, however, caution you that you do not, in any instance, arrive too hastily at this conclusion. Our knowledge is not so absolute and certain as to prevent even well-informed persons being occasionally mistaken on this point. This is true, especially with respect to the affections of internal organs. Individuals have been restored to health who were supposed to be dying of disease in the lungs or mesenteric glands. But it is also true, though to a less extent, with respect to diseases of parts which are situated externally. I know females who are now alive and well, who were supposed to labour under malignant disease of the uterus; and I could mention many cases in which patients have recovered of what had been regarded as an incurable disease of a joint. It is a good rule in the practice of our art, as in the common affairs of life, for us to look on the favourable side of the question, as far as we can, consistently with reason, do so. A sanguine mind tempered by a good judgment is the best for a medical practitioner. Those who from physical causes or habit are of a despondding character, will sometimes abandon a patient to a speedy death, whom another would have preserved altogether, or for a considerable time.

There is another inquiry which should be always made before you determine on the adoption of a particular method of treatment. What will happen in this case, if no remedies whatever be employed? If the patient be left altogether to nature, or to the efforts of his own constitution? There are many diseases which, for the most part, undergo a spontaneous cure, and we should be always very cautious how, in such cases, we disturb the natural process. A prudent physician watches a case of measles or small-pox, but it is only on some special occasions that he ventures to have recourse to any active remedies. The surgeon ought to be influenced by similar views in the management of the cases which come under his care; those, especially, in which the patient suffers from the effects of mechanical injury. The animal system is not like a clock or a steam engine, which, being broken, you must send to the clock-maker or engineer to mend it; and which cannot be repaired otherwise. The living machine, unlike the works of human invention, has the power of repairing itself; it contains within itself its own engineer, who, for the most part, requires no more than some very slight assistance at our hands. We bring the edges of a wound into contact, but the vascular union which constitutes the healing by the first intention, is the work of a higher art than any that we profess to practise. If this mode of union fails, and the wound is to be healed by granulation, still this is not accomplished by our means. So where there is a simple fracture, all that we can do is to place the two ends of the bones in a proper position, and keep them in it. The process by which they are made to unite, so as to be again consolidated into one bone, is not under our dominion and control. These are, it is true, examples of slighter and simpler injury; but even in those in which the injury is more severe and complicated, it is easy for us to interfere to the patient's disadvantage, and, in fact, it may be truly said, that there is, on the whole, more harm done by too much than there is by too little interference. A patient with a compound fracture of the leg, or a wound of the knee-joint, stands a comparatively bad chance of recovery, if the surgeon, in his daily visits, disturbs the position of the limb, introducing his probe into the wounds and sinuses, and dressing them to the bottom with lint. Wounds of the brain are, as you must already know, highly dangerous, so that there is only a small proportion of recoveries among a great number of deaths from these accidents. I was once at the trouble of looking over all the cases of this kind which I could find recorded among my own manuscript notes, and in what might be regarded as standard books belonging to this part of surgery. I constructed a table, which represented, in every case, the kind of wound, the treatment employed by the surgeon as far as operations were concerned, and the results which followed; and it was curious to observe how large a proportion of the recoveries occurred in those cases in which the surgeon either avoided an operation altogether, or confined himself to the removal of some loose and detached pieces of bone. You may well suppose that a person who has a musket-ball lodged in the brain is in a very dangerous condition; nevertheless, it appears that it is safer to allow it to remain, than to endeavour to extract it.

I feel it my duty to give you these cautions. I should, however, be sorry if, in so doing, I were to lead you to overestimate what nature can do, or to underestimate the resources of our art. No one will probably be bold enough to tell you that surgery is useless; and none but the

ignorant will hold this language respecting the sister art of medicine. You will not have been engaged for two months in visiting the bed-sides of the patients in the hospital, without having ample means of contradicting this absurdity. I said that it is easy to interfere too much in the management of a case of compound fracture; yet the life of a man who has met with such an accident has been frequently preserved by the surgeon seizing a fit opportunity to open a putrid abscess. I said that a prudent physician, called to a case of measles, will do little more than watch the progress of the disease where it proceeds favourably; but if symptoms of pneumonia shew themselves, and bloodletting is not resorted to at a proper period, the death of the patient may be the consequence of such neglect. When I tell you that we are to trust to nature, I do not mean to say that we are to confide in her altogether, but that our rule should be not to disturb her operations without an adequate reason for so doing; at the same time holding ourselves ready, where a just occasion presents itself, to step in to her assistance, and then act with promptness and decision.

You will soon learn that it is not equally easy, in all cases, to determine what is the mode of treatment most calculated to be useful to the patient. The disease may be simple and obvious, so that no doubt can be entertained respecting it; and we know if any remedies which we possess are capable of relieving it, and what they are; and if it be not under the influence of remedies, we know that also. But in another case, the disease may be complicated, the complication being, most usually, of this kind; that, that which most attracts our notice is not the primary disease; but it is against this last, and not against the diseases that follow in its train, that our remedies are to be directed. Bearing this rule in your minds, you will understand many things that occur in the hospital, which you could not have understood otherwise. A patient, for example, has his legs swollen from anasarca; the skin tense, inflamed, and likely to give way and ulcerate, or even threatened with gangrene. We make punctures with a needle: the fluid escapes, the tension is relieved, the inflammation subsides. But the relief is only temporary. The swelling depends on an obstruction to the return of the venous blood from the limb, produced by disease elsewhere, probably at a considerable distance from the part to which our attention has been principally directed. To prevent a recurrence of the mischief in the legs, we must endeavour to remove, or, if that cannot be accomplished, to palliate, the original disease. Another patient suffers from inflammation of the synovial membrane, which lines the knee. The joint is painful, and distended with fluid. Perhaps we are told a history of some sprain; but on inquiry it is evident that the accident was so slight, that it will not account for the symptoms. We have recourse to leeches, blisters, and liniments, and keep the limb in a state of repose; but although somewhat mitigated, the inflammation still lingers in the joint. In fact, we have not yet traced the disease to its origin. On further inquiry we find that there is a faulty digestion, with flatulence and acidity of the stomach after meals, and a copious secretion of lithate of ammonia by the kidneys. In addition to our other remedies, we administer magnesia, small doses of mercury, and perhaps colchicum, and the disease subsides.

Again, a case, whether simple or complicated, may be obscure; so that we cannot well satisfy ourselves what the symptoms indicate, or how they are linked together. Here we can do nothing better than consider what are, on the whole, the most reasonable explanations, which can be offered of the circumstances of it; and without adopting these explanations as realities, our practice must be a series of experiments founded on them. If our first experiment should not succeed, in our second or third we may be more fortunate; and in the meantime, every one of them probably gives us a clearer insight into the disease, so that we may proceed with more confidence in our treatment of it.

But let us suppose another case. A disease is so obscure, or so beset with difficulties, that we are absolutely at a loss how to treat it, having nothing to direct us in our practice. Here we may apply a rule, which is also applicable to all the concerns of life. When we know not what to do, it is better that we should do nothing. Nature may accomplish something for the patient; and if our efforts to assist her are founded on no principle, they are more likely to be mischievous than they are to be useful.

It is almost proverbial among us, and I have already expressed the same thing, though in other words, that our object should be to seek remedies for the disease, and not for the symptoms. But there are few general rules which are not to be received with some degree of limitation. Particular symptoms may be so urgent, that we must endeavour to relieve them at all events, without reference to the causes which produce them. You must, under certain circumstances, puncture anasarcous legs, although this does nothing for the primary disease. The pain of the tic douloureux is merely a symptom, probably indicating the existence of some kind of dis-

ease in the brain: but if the patient be distracted by excessive suffering, are we not to administer opium for his relief? A physician is called to a patient with a weak and fluttering pulse, and cold extremities, who is, to use common language, in danger of sinking. He does not hesitate for one instant to give him ammonia and brandy, without waiting to inquire about the original malady. If the post-mortem examination should afterwards disclose that some internal inflammation had been going on at the same time, there is nothing for him to regret: a knowledge of that circumstance would not have altered his practice in such an emergency as this.

So far the rules of practice seem to be sufficiently intelligible. But the great difficulty remains to be noticed. How are you to determine what are remedies, and what are not, and the real value of the remedies which you possess? Here is the most abundant source of the errors which infest our art; from which even the most experienced and discerning practitioners are not altogether exempt, but which especially prevail among those who are deficient in experience or good sense. It is to the almost entire ignorance of the public, and especially of the more affluent classes, as to the evidence which is necessary to establish the efficacy or inefficacy of a particular mode of treatment, that we are to attribute the reputation which is frequently obtained by empirics and other adventurers, who pretend to practise the art, without having learned the science of medicine.

When the optician, in constructing an optical instrument, arranges his lenses and reflectors in a new order, his knowledge of the principles of optics enables him to predict the effect which will be produced, so that, except as to some minor circumstances, he can be scarcely said to be making an experiment. But there is no reason to believe that in the study of those varied and complicated phenomena which are the subject of physiology and pathology, we shall ever arrive at that point which has been long since attained in optics, and some other branches of natural philosophy; and at all events we are far distant from it at the present moment. Few greater benefits have been conferred upon mankind than that for which we are indebted to Ambrose Paré—the application of a ligature to a bleeding artery; but no knowledge which he possessed would have enabled him to say more than that it woujd be probably successful; and it was left for after ages to demonstrate the principle on which it acts, and to explain the circumstances which may cause its failure. John Hunter, as you will hereafter learn, was led by his knowledge of the animal economy to propose a new method of treating aneurism; and it is impossible to estimate the number of lives which have been preserved by this discovery; yet it was but an experiment, of which even his philosophic mind could not with certainty predict the result. It must, however, be admitted, that science pointed out the road to these inventions. But this cannot be said of the great majority of the remedies which you will see employed. Nothing that could be known beforehand would lead you to expect that ipecacuanha would operate as an emetic, or that opium would occasion sleep—that quinine or arsenic would cure the ague—that inflammation of the iris would yield to mercury—or the gout to colchicum. The invention of these, and of a multitude of other remedies, is of accidental origin; we are indebted for our knowledge of them, for the most part, to the observations of ignorant persons, accumulated during a long series of ages; and the office of men of science is little else than to study their effects minutely, and to learn the right application of them. But even in doing this, the greatest caution and, I may say, scepticism, is necessary to prevent you being continually guilty of mistakes. I have already told you how many diseases, if left to themselves, admit of a spontaneous cure. We see the surface of the body, and we know, by certain outward signs, a good deal of what takes place within; but there is much of which we know nothing, so that it is impossible for us to take cognizance of all the circumstances which may occur to modify the course and alter the termination of a disease. If we always yield to the instinct which inclines us to believe that when one event follows another, the first is the cause, and the second the effect, we shall be frequently directed wrong. The fact of a patient having recovered under a particular mode of treatment goes but a little way towards establishing its value; nor is any thing sufficient for this purpose, short of the same result being obtained in many similar cases, in which there was otherwise little prospect of recovery. It is the disposition of every one of us to admit the efficacy of the remedies which we employ on insufficient evidence; and unless we, whose duty it is to understand these subjects, are on our guard against this not unnatural prejudice, we have little right to blame the credulity of those whose minds are not turned to these inquiries, when a corresponding error of judgment leads them to believe in the absurdities of metallic tractors, animal magnetism, and homœopathy!

But there are still further considerations, which must not be overlooked in this part of our inquiry. It is not enough that you should have satisfied yourselves, by your own observations, or by those of others, as

to the efficacy of a particular remedy in a particular disease: you must look further still; endeavouring to learn what such a remedy may do besides. That which is usually an agent for good, may, under certain circumstances, be an agent for evil also; and as the habits and constitutions of individuals differ, so it is not always in your power to foresee which influence will predominate. Each individual case must be separately and carefully studied, while under treatment, and with a view to its treatment, as much as with a view to a true diagnosis in the first instance. Arsenic is a remedy for *lepra*. Most persons can take it in the doses necessary for the cure of that disease, without experiencing the smallest inconvenience from it: but, in some, a very moderate dose will operate as a poison. Here, by watching its effects, you will always be enabled to discontinue it in time to prevent any ill consequences arising from it; and the fact of it disagreeing with one person, does not therefore prevent you giving it to another. But in other cases the circumstance of a method of treatment which is generally useful, being occasionally injurious, is a sufficient reason for you to lay it aside altogether. A late eminent surgeon proposed the ligature of the principal vein on the inside of the leg, as a remedy for varicose veins and ulcers of the limb. For some time the operation seemed to be attended with the best results; but ultimately it was ascertained that inflammation, of the membrane lining the vein occasionally followed. Such inflammation, when once established, is often uncontrollable, and always highly dangerous; and the possibility of its occurrence is more than sufficient to counterbalance all that can be said in favour of the operation.

I fear that, in my anxiety to give a right direction to those studies, which, as I believe, constitute the most important part of your education, I am already beginning to exceed the brief limits of a lecture. There is, however, one other subject which will not detain you long, and on which, before we part, I feel it my duty to offer a few remarks.

As medical students, you have little leisure for reading; you must, however, be provided with some good systems of Anatomy and Physiology to assist you in the dissecting-room; and you will find some of the best modern compilations relating to Medicine and Surgery useful when you begin your attendance on the hospital. There are some few books which you ought carefully to peruse. I leave it to the different lecturers to point out what they should be; but I shall take upon myself to mention as one of them the Treatise of John Hunter on the Blood and Inflammation. It is true that he essential parts of John Hunter's doctrines as to inflammation and its consequences are now so incorporated with what is taught in schools, that to be acquainted with them you need not seek them in his works: but I recommend you, nevertheless, to make these your especial study, for the sake of the other valuable information which they contain, and the important views in physiology and pathology which, in almost every page, are offered to your contemplation; and also for this reason, that they will improve your faculty of observation, and furnish you with materials for reflection during the remainder of your lives.

During the latter period of your attendance on the hospital, and afterwards, when first engaged in practice, you should be provided with what may be regarded as the standard works on Pathology, Medicine, and Surgery. Not that I mean much to recommend a course of medical reading, which for practical purposes is nearly useless. Books should be had recourse to chiefly for the purpose of reference, when circumstances have brought a particular subject under your observation. And here I must advise you not to confine yourselves within the narrow bounds of modern publications; an error which is, I fear, too common, at present, not only with medical students, but with practitioners. It is true, that within the last fifty years a vast impulse has been given to our sciences; but it is equally true that they were cultivated not unsuccessfully before. There is no richer mine of surgical knowledge than that which is contained in the memoirs of the French Academy of Surgery; and, as far as I know, there are no descriptions of disease more accurate and graphic than those which have been bequeathed to us by Sydenham.

Gentlemen! Although many years have since elapsed, it seems to me but as yesterday, when I was, as you are now, a young adventurer in this great metropolis; and I well remember how often, in the intervals of my occupations, I have contemplated, with something like dismay, the prospect which lay before me. My own feelings, at that time, explain to me what may possibly be yours at the present moment. Yet you have undertaken nothing which energy and perseverance, and upright and honourable conduct, will not enable you to accomplish. It cannot, indeed, be predicated of any individual to what exact extent he may attain professional success, for that must depend partly on his physical powers, partly on the situation in which he is placed, and on other contingencies: but having had no small experience in the history of those who have been medical students, I venture to assert, that no one who uses the means proper for the purpose will fail to succeed sufficiently to gratify a

reasonable ambition. You have entered on pursuits of the highest interest, in which you will have the no small satisfaction of knowing that you never acquire any real advantage for yourselves which is not the consequence of your having benefited others. It is true you have years of constant exertion before you; but you will eventually learn how preferable such a situation is to that of those individuals who, born to what are called the advantages of fortune, but neglecting the duties of their station, believe that they can direct their minds to no more worthy object than the multiplication of their selfish enjoyment. It will not be your lot, as it is often theirs, to suffer the miseries of ennui, or to be satiated and disappointed with life at an early period: nor will you have to regret, as you advance in age, that you have lived unprofitable members of society. It is also true that you will meet with difficulties in your progress: but there is no higher gratification than that of surmounting difficulties; and whenever they occur you will be cheered by the anticipation of that period when you may look on past events, and say to yourselves—

"Multa dies variusque labor mutabilis ævi
Retulit in melius."

CLINICAL LECTURES ON MEDICINE,

Delivered at the Meath Hospital, Dublin,

Session 1837-8,

By Professor Graves.

Lecture V.

Burdock on Impetigo.—Dr. Roe's Report on Syphilis.—Treatment of Gonorrhœa.—Mr. Hoskins on Purulent Ophthalmia.

Gentlemen,—I had recently under my care a young man who suffered greatly from an impetiginous affection, accompanied by varicose veins of the legs; the tibial surfaces of both were covered with ulcers, from which a considerable quantity of purulent and ichorous fluid exuded; and as his business obliged him to walk about constantly, he suffered a great deal of distress and annoyance. I treated him, at first, with leeches and poultices, and afterwards with various astringent applications, but with very little relief; the discharge from the legs was profuse, and the heat, itching, and soreness undiminished. While in this state, he was advised by a friend to take about four or five ounces of burdock root (Arctium Lappa), and having boiled it in a quart of water down to a pint, to drink this quantity of decoction every day in divided doses. He did so, and in the space of three or four days a most remarkable improvement took place. Thinking that the benefit derived might be the result of accident, I made him leave off the burdock for a few days, and found that the legs began to get bad again. He resumed the use of it, and is now well. I do not wish to attach more interest to this case than it deserves; but certainly, the decoction of the burdock root operated in a very remarkable manner in improving this gentleman's health, checking the tendency to impetiginous inflammation, and arresting the profuse discharge. Here is a specimen of the root itself—although it is not at present mentioned in our pharmacopœia, it held a place at one time in the materia medica, and enjoyed considerable reputation as an alterative remedy.

I shall now, gentlemen, proceed to lay before you some observations on syphilis. Bell, Hunter, Matthias, Pearson, Carmichael, Rose, Hennen, Colles, Wallace, and Ricord, have so diligently investigated the history, symptoms, and special pathology of venereal affections, that I consider it unnecessary to touch upon these matters, at present, and consequently I mean to confine my remarks to a few controverted subjects connected with the general pathology and therapeutics of syphilitic diseases.

I hold in my hand a report, by my friend Dr. Roe, containing a return of the venereal patients treated in the 38th Regimental Hospital, from the 11th of June, 1836, to the 15th of November, 1837; giving in separate columns the names, ages, forms of disease, periods of admission and discharge, duration of the treatment, and remarks. The compiler, Dr. Roe, was a fellow-student of mine, educated in Dublin, and always noted for his intelligence, accomplishments, and steadfast zeal for his profession. Under Dr. Colles, and the surgeons of the Lock Hospital, he had ample opportunities of witnessing the effects of the mercurial treatment of syphilis. He has treated the disease in the East Indies, the Ionian Isles, and at home, and from his habits of observation, sagacity, and attention, any statement coming from him must be very valuable. During the period from the 11th June, 1836, to the 15th of December, 1837, the number of patients treated in the hospital of the 38th regiment was 231. Of these, 80 were affected with gonorrhœa, 87 with chancre, 36 with bubo, 23 with hernia humoralis, and 4 with chancre and bubo. 90 were under 20 years of age; 95 from 20 to 25; 23 from 25 to 30; and 17 from 30 to 40 and upwards. Several caught the infection more than once during the space of time mentioned. Thus, Henry Carter was admitted for gonorrhœa on the 11th of June, 1836; again for gonorrhœa, on the 25th of February, 1837; and again for the

same on the 4th of May, 1837. John Adams, twice for gonorrhœa; Arthur Nesbitt, twice for chancre; John Williams, twice for chancre; William Bexham, twice for chancre; John Jess, once for gonorrhœa, and a second time for bubo. With respect to the duration of these cases, treated wholly without mercury, Dr. Roe gives the following summary:— The cases of gonorrhœa were on an average $15\frac{3}{7}$ days under treatment; chancre, $21\frac{4}{11}$ days; bubo, $27\frac{3}{4}$; swelled testicle, or hernia humoralis, $11\frac{3}{5}$; severe cases of chancre with bubo, $18\frac{1}{4}$ days. The following was the general plan of treatment pursued by Dr. Roe, and first with regard to gonorrhœa. The men on admission, having been washed with warm water and soap, were ordered to take an aperient mixture, composed of sulphate of magnesia and tartar emetic, every third hour, until the bowels were freely opened. A small piece of lint was applied to the orifice of the urethra, and a short roller soaked in cold water was passed round the penis, to keep the parts cool and clean. If there was much ardor urinæ, the patient was ordered to foment the part, and syringe with warm water every second hour. As soon as the ardor urinæ abated, an injection of sulphate of zinc (gr. ij ad ʒj. aquæ) was used four or five times a day; as the smarting in passing water abated, the proportion of sulphate of zinc was increased to five grains to the ounce. He then commenced bathing the parts with cold water, and took balsam of copaiba, turpentine, or cubebs. The patients were invariably confined to bed while under treatment, used only spoon meat or milk diet, and barley water for drink. Every third or fourth morning a dose of Epsom salt, with or without tartar emetic, was taken to keep the bowels free. In a few obstinate cases, injections of sulphate of copper or nitrate of silver were employed, with the occasional use of the bougie, or a small blister over the track of the urethra.

From this simple but excellent and efficacious plan of treating gonorrhœa we come now to the treatment of chancre. This is a point deserving of your attention, and peculiarly important with reference to the subject at present under consideration. The patients, on admission, were purged with Epsom salt and tartar emetic, and were ordered to apply a bit of lint wet with a solution of sulphate of copper to the chancres, renewing the application every second hour, and using the moistened roller to keep the parts cool and retain the dressings. Milk diet was prescribed as before, and a dose of salts, or salts and tartar emetic, taken every second morning. The parts were frequently bathed with cold water, particularly if there was any pain in the groins, and the chancres were occasionally touched with nitrate of silver, or sprinkled with red precipitate to expedite the cure. Calomel was rarely given; and when administered, not for the purpose of affecting the mouth, but merely as an alterative, and in combination with tartar emetic. The men were all confined to bed, the most perfect cleanliness insisted on, and the bowels kept in a soluble state.

Buboes were treated in a similar way, but with a more rigid observance of the antiphlogistic regimen. Buboes are often seen without any ulcers on the penis, or they have appeared after the ulcers have healed. They were constantly bathed with cold lotion, and by this means, aided by the solution of tartar emetic and salts, they were frequently dispersed. If, in spite of these measures, they become enlarged, red, and tender, a warm poultice, three times a day, and frequent fomentations, were employed. If there was still any chance of resolution, small doses of calomel and tartar emetic were administered, and the poulticing continued, care being also taken to keep up a loose state of the bowels by saline purgatives. In general, these means were followed by the desired effects. If, notwithstanding these measures, the buboes increased in size, became softer, and exhibited proofs of fluctuation, Dr. Roe opened them by applying the kali purum to the diseased surface. He then continued the fomentations and poultices, dressed the ulcer with red precipitate, and when it began to assume a healthy appearance, applied a compress and roller to keep the edges of the ulcer together, and keep down exuberant granulations. At the same time the patient took decoction of bark with sulphuric acid, or sarsaparilla with nitric acid; these, with a more generous diet, and a moderate use of porter, generally succeeded in producing a speedy and permanent cure.

Among all Dr. Roe's patents there was only one case of secondary syphilis. This man, who laboured under buboes at the time of his admission, was in bad health; the buboes were extremely chronic, and difficult of cure. He was treated during the winter, and returned, sometime after being discharged, complaining of cough and sore throat, with a papular eruption over the breast, back, and thighs. He was treated with alterative doses of calomel, combined with tartar emetic and opium, and used the warm bath three times a week. His bowels were kept open, a generous diet, with porter, was allowed, and he took the decoction of sarsaparilla with nitric acid. He recovered completely, and is now stronger and in better health than he has been for many years. A solution of alum, as a gargle, and the use of

volatile liniment, with flannel, externally, was all that was found necessary for the cure of his sore throat. He was about a month under treatment.

Such was the plan of treatment followed by Dr. Roe, and that it proved eminently successful is shewn by the result, for out of 231 patients, of whom 87 had chancre and 36 bubo, there was only one case of secondary syphilis. Of these facts I have been myself a witness, and they are certainly of great importance. I do not think that more gratifying results could have attended the best-regulated mercurial treatment. I may observe, however, that soldiers enjoy many advantages which civilians of the humbler class are, in a great measure, deprived of. They are not left to their own discretion as to the time they should apply for advice, or to the mode in which they should conduct themselves during the course of treatment. Soldiers are generally inspected by the medical officer once a week; the glans, prepuce, orifice of the urethra, and groins, are carefully examined, so that any trace of disease cannot escape detection.

In this way the disease is attacked at its very commencement, and checked at once; a circumstance which, for reasons hereafter to be explained, has an important influence on the proportion of the cases of secondary syphilis.

Again, during the process of cure, the men are not allowed to walk about, take exercise, indulge in the use of intoxicating liquors or stimulant diet, or expose themselves to the vicissitudes of the season. It may be also observed, that soldiers, from the care employed in the selection of the recruits, from their mode of life, diet, exercise, and regular hours, are some of the healthiest members of the community; and therefore enjoy, in a very remarkable degree, the advantage of resisting infectious diseases, or getting rid of them sooner than persons of feeble constitution.

There are some points in Dr. Roe's treatment to which I shall now advert. In gonorrhœa he begins, internally, with cooling antiphlogistic medicines, and afterwards passes to the use of internal stimulants. He also applies local antiphlogistic means in the commencement, directing the patient at first to syringe with tepid water, which is exchanged for a mild astringent injection as soon as the ardor urinæ abates; and he afterwards employs stronger and more astringent injections. When neglect or an injudicious treatment have allowed gonorrhœa to attain the second stage—that of inflammation, it will be always right to apply the antiphlogistic method generally and locally; but this does not preclude the use of injections: they must be skilfully administered, for fear of injuring the inflamed urethra, and at first should merely consist of one drachm of mucilage dissolved in seven of water. After using this two or three times, one grain of sulphate of zinc may be added. On the morrow and day after the same may be continued, and then it may be rendered more active by increasing the quantity of sulphate, and adding other matters, of which more hereafter.

In order to prevent you from misunderstanding my meaning, it is necessary to explain that gonorrhœa may be considered as exhibiting three different stages. In the first, immediately succeeding the period of incubation (during which the infection has as yet produced no perceptible symptoms), a very slight oozing of whitish mucus takes place from the urethra, and a little tingling is felt in that passage, whose mucous membrane then exhibits an incipient redness. No pain is felt in passing water. This stage seldom lasts more than two days; but occasionally it does. When the gonorrhœa is to be violent, it is of short duration; when mild, of longer. It passes gradually into the second or inflammatory stage, with its well-known *profluvium*, ardor urinæ, and other symptoms; and this again, in due time, is succeeded by the third stage, or that of decline. The first and last stages are peculiarly suited for the employment of astringent injections.

I do not know any practical point on which greater diversity of opinion exists than the administration of injections in gonorrhœa. In Dublin, students are generally taught that their use is improper and dangerous. The following are the chief objections to which they are said to be liable:—1st, They do not diminish the urethral inflammation though they dry up the discharge, and consequently they lay the foundation for stricture, or more immediately occasion the inflammation to descend along the urethra, until it extends to the membranous portion, the prostate, or even the bladder. 2dly, Their use renders swelled testicle and sympathetic bubo more frequent. 3dly, It is argued that the use of any measures, except such as are purely antiphlogistic, must be improper in a disease accompanied by so many indubitable signs of inflammation. Let us closely examine this last objection, and we shall find it to possess more apparent than real weight, for analogy proves that the principle on which it depends is by no means universally applicable, particularly in cases of specific inflammation. When surgeons placed their sole reliance on antiphlogistic measures, local or general, in the treatment of purulent ophthalmia, the results were truly disastrous; and however exhausted the patient became

from excessive bleeding by the lancet and leeches, aided by large and frequently-repeated doses of tartar emetic internally, the local inflammation proceeded in its rapid and destructive course, scarcely influenced, never effectually checked, by the treatment adopted. I have seen a man treated (in the Meath Hospital, by myself and the late able ophthalmic surgeon, Mr. Hewson) with bleeding, general and local, employed I might say to excess, and aided by rapid and profuse mercurial salivation: I have seen, in the patient referred to, both eyes destroyed by purulent ophthalmia in a few days. Not long ago I was called during the night to visit a young gentleman in a hotel; he had gonorrhœa, and went to bed without any complaint of the eyes, but was soon wakened by pain in the left eye. It was evidently purulent ophthalmia, and was cured in the course of a few hours by relays of leeches, and a strong sulphate of zinc collyrium, carefully applied. After thousands had lost their vision from the effects of this disease, it was at length discovered that some who adopted a totally different mode of practice, and who treated the purulent ophthalmia in its very commencement with strong astringent and corrosive applications, were eminently successful. This led many army surgeons, more especially Mr. Guthrie, to investigate the subject with care. You are aware of the important practical results at which he arrived, and of the great improvement which has consequently taken place in ophthalmic surgery, leading to the application of solid nitrate of silver, or its concentrated solution, of sulphate of copper, &c. &c. to the mucous membrane of the eye in the first stages of purulent ophthalmia—a mode of treatment which our predecessors would not have hesitated to pronounce most hazardous and destructive.

That astringent and stimulant collyria are applicable in the incipient stages of some other species of ophthalmia, as well as the purulent, is now familiarly known to surgeons. The following example of its utility occurs in a work lately published, on the Oases of the Libyan Desert, by Mr. Hoskins. It is necessary to remark, that the ophthalmia described by Mr. Hoskins, and so common both among the natives and foreigners in Egypt, is essentially a purulent ophthalmia, which, however, attacks with very different degrees of intensity, being in some mild and chronic, in others most acute, and suddenly destructive of vision.

"Nov. 5th, 1832.—I was confined to my tent the whole of this day by a painful attack of ophthalmia; and although in the morning it was very severe, yet by double doses of the contents of an inestimable bottle I have nearly subdued it. As some of my readers may wish to know what this wonderful vial contains—what this infallible remedy for such a baneful complaint can be—I will tell the history of it, though I cannot fully gratify the desire of the curious. The purser of the French frigate, the Luxor, which was built for the purpose of removing one of the obelisks from Thebes, was the fabricator of this extraordinary water. He informed me, when in Egypt, that his father had been attached to Napoleon's expedition to that country, and had then discovered this miraculous cure. From fear of its being analysed, he had never allowed any person to possess more than a very small quantity; but he cured without fee all who came to him, Christian and Mussulman, French and English, Turk and Arab. When this liquor was applied in time, it was found always to stop the most virulent attacks of the disease, and generally relieved in a very few days even those who had been for several months martyrs to the complaint. A Turk, who had suffered for years, was completely cured in a fortnight; and in gratitude to his benefactor, gave him a horse richly caparisoned. The Frenchman's fame was spread throughout the country, and many came to him as far as from Keneh and Esneh. Even the surgeon of the Luxor was so sensible of the value of the remedy, and of its producing no subsequent bad effects, that he sent all the officers and men of the vessel suffering from that complaint to the purser, or to the *hakim* (doctor), as the natives called him. The application was easy to the hakim, but most painful to the patient. He let fall a single drop of the water on the ball of each eye, which immediately spread, and from its pungent nature caused, if much irritation existed, the most inexpressible torture. In twenty minutes or half an hour this pain subsided, and a little clammy matter was seen to ooze from the eye. The remedy, although violent, did not weaken the eye in the slightest degree, nor in any manner injure the sight. Knowing that I purposed to go into Ethiopia, the hakim had the kindness to sell me, for about its weight in gold, a small bottle of this water; but under the express condition that I would neither directly nor indirectly allow it to be analysed. He said that it was his intention to return again to Egypt, and that he expected to be able to make his fortune; but whether he does or not, I feel most grateful to him for having saved me from much torture, as I have often been obliged to have recourse to the water, and have kept my promise in not allowing it to be analysed. As this person has now left the country, and no further supply is to be

obtained, I prize the water most highly, and cannot afford to use it for the relief of mere strangers. The remedy which we generally find to succeed with the natives, when applied to by them, is sulphate of zinc in strong doses—ten grains being dissolved in an ounce of water, and a drop of this being put in each eye two or three times a day. This is by no means so certain a remedy as the hakim's water, but in nine cases out of ten I have found it to succeed. When, however, the inflammation and swelling are so great that the eyes are closed, *cupping* is the only effectual remedy. Mr. Ponsonby, who travelled with me in Lower Nubia, was attacked with this description of ophthalmia. He sent without delay for the hakim, alias barber, of a village. It was fortunate that the eyes of Mr. P. were quite closed, for had he seen the hakim he would scarcely have reposed sufficient confidence in his skill to submit to the operation. The man was actually in rags, and of the most unprepossessing appearance, without a single ray of intelligence in his countenance. His cups were made of the horns of a cow, and his instrument was an old razor, not so decent-looking nor so sharp as a tolerably good stick knife. I offered him a lancet, but he said that he did not know how to use it. Thinking that it would be less painful for Mr. P. to be scarified with a sharp than a blunt razor, I gave the man one of my own; but being unaccustomed to so fine an instrument, and not aware of the much less force it required than his own blunt knife, he cut too deep; I therefore thought it best to allow him to finish the operation in his own way. I must confess, indeed, that he did it very expertly, and I may add successfully; as he effected a very sudden and almost miraculous cure of Mr. P.'s ophthalmia. At Thebes I had two severe attacks of this disease, which incapacitated me from either reading, writing, or drawing. Thanks to the hakim's water, these attacks were fortunately short; but they were painful while they lasted, and most irksome to support. To be debarred from all mental enjoyment and bodily exercise —to be in the world and yet see nothing; and to be without the general resources of the blind, particularly society, this was indeed tiresome. A Turk might probably have amused himself with his beads, but even a Mahomedan's philosophy would have forsaken him in such a situation, especially as the regimen necessary for this complaint requires the sacrifice of the all-consoling pipe. The Arabs and Turks having frequently asked me for medicine to relieve them from attacks of ophthalmia, the water that I applied to their eyes invariably caused them extreme pain; which, however, they bore with great courage and resignation, having implicit faith in the skill of a European. When, however, I desired them to give up their pipes (smoking being extremely injurious) "Inshallah!" (please God!), they replied, but never had the resolution to do so. An opium-eater may refrain from his weed, a drunkard may resign his glass; but I soon found the absurdity of asking an Oriental to abandon his shibouk. Like ice to the Sicilians, macaroni to the Neapolitans, and grog to the British sailor, they consider it as their staff of life, and conceive it impossible to get through the day without it."

With respect to the objection that the treatment of gonorrhœa by injection lays the foundation for strictures, I beg most distinctly to deny the truth of the assertion: whatever diminishes the intensity, and shortens the duration of the urethral inflammation, must tend to diminish, and not to increase, the liability of strictures. Compare the violence and duration of a gonorrhœa skilfully treated from its very beginning, by injections, with a case where no injections are employed—the physician's reliance being exclusively placed on perfect rest, confinement, fasting, and cooling medicines; compare two such patients, observe how the one is perfectly cured of his disease in a few days, without confinement, and without any deviation from his usual diet and habits (I speak now of two cases coming under treatment in a day or two after the appearance of the very first symptoms); and then watch the other through sufferings protracted week after week, until his constitution is debilitated by confinement and low diet: how often do we find the discharge from the urethra increasing daily, in spite of the general and local antiphlogistic remedies employed, until it is profuse in the extreme, and accompanied by great ardor urinæ, painful erections, irritation of the bladder, and chordee. Now I will fearlessly assert that a medical man who gets the care of *a recent gonorrhœa in a healthy constitution*, is grieviously to blame if he permits this series of bad symptoms to supervene. I do not deny that these symptoms will at length give way to the antiphlogistic treatment, leeches along the perineum, stupes, inunction of the skin covering the urethra, with mercurial ointment and belladonna, &c. &c. These remedies will in the end get rid of the disease, but then at what a loss of time and strength! I again repeat the assertion, and I do it emphatically, that a gonorrhœa treated by injections *from the beginning*, can generally, in persons of sound constitution, be cured in a few days. When a gonorrhœa

has been allowed to continue several weeks, it often so alters the vitality, and probably the structure of the affected tissues, that a cure is uncertain, and frequently the treatment becomes both perplexing and tedious; when a gleet supervenes, then remedies even the most judiciously selected frequently fail altogether: these facts prove the necessity of curing the disease, in every instance, as soon as possible.

But, gentlemen, we must here enter into details, and first as to the manner of injecting the urethra. Many believe that the inflammation produced by the specific poison of gonorrhœa is seated chiefly, if not exclusively, in the portion of the urethra near the orifice; and hence they are only anxious to introduce the injected fluid a short distance in that canal. Nothing can be more unfounded than this opinion, and nothing more injurious than the practice to which it gives rise. The inflammation which gonorrhœa produces in the urethra is by no means confined to the third of the canal near its orifice, but even in recent cases it extends much farther, and it cannot therefore be efficiently treated by injections, which do not come into contact with the whole extent of inflamed surface. Unless you yourselves teach your patients how to inject, not one in ten of them will do it properly. Of this, an extensive experience has convinced me. Over and over again have I been told that there was no use in trying injections in a particular case, as they had been already tried in vain; and on accurately inquiring into the patient's mode of injecting, the result has been the discovery that he was quite ignorant of the proper method. The pewter syringe or squirt used must be in proper order, so as to work easily with the pressure of one finger; otherwise when the end is in the urethra, and the patient tries to inject the fluid contained in the syringe, the point is very apt to be hitched against the urethra, in consequence of the force thus suddenly applied. The point of the syringe must be carefully introduced at least half an inch within the lips of the urethra, and the forefinger and thumb of the left hand must then be so applied as to press the lips of the urethra gently on the syringe, so as effectually to prevent the reflux and and consequent escape through the orifice of the injected fluid. When the fluid is thrown in, the patient will feel it in the urethra, which it will gently distend as far down as the membranous portion, if a sufficient quantity be injected. Some persons have an idle fear about the ill consequences which would arise were any of the injection to arrive at the bladder. An ordinary pewter syringe does not contain more than a drachm and a half, which is about the quantity required for one injection. When the fluid has been injected, the point of the syringe is to be withdrawn, and the lips of the urethra kept closed with the finger and thumb, for at least two minutes, when, the pressure being removed, the injected fluid will be thrown out from the urethra with considerable force, in consequence of the elasticity of that canal. These directions, gentlemen, are by no means unnecessary; indeed, I never treat a patient without seeing that he knows how to inject, for I find that many say they know the right method, who are quite ignorant of it, and who consequently do themselves more harm than good by making the attempt.

It is not my object to enter at present into the especial therapeutics of gonorrhœa, and consequently it would be foreign to my plan to speak of the various substances which may be used in injections; for an account of these I must refer to authors who have written at large on this subject. As a general rule, you ought to commence with weak solutions of the astringents you prefer, which solutions may be used five or six times a day, and may be daily increased in strength. *An injection should seldom be used so strong as to cause at the time any thing like severe pain of the urethra.* In this respect we must not closely imitate the example of *eye-waters*, such as that used by the Egyptian *hakim*. I have, indeed, often known very strong injections used at the first trial, and which, though they produced great pain for many minutes after their introduction, yet were very effectual in rapidly curing the disease, and that without any bad consequences. (This is more especially the case with nitrate of silver, which, although a powerful remedy, I have found unmanageable, and therefore not to be recommended.) Still, however, by far the safer and most prudent practice is to commence with astringent injections, so weak that, when used, they may produce merely a sense of titillation, or of very inconsiderable smarting. It is often difficult at first to hit off, if I may use the expression, the precise strength required; and therefore I always give my patients particular instructions, and desire them, if the injection is at all too irritating, to dilute it with water to the desired degree of strength. The sensibility of the urethra diminishes very rapidly when an injection of proper strength is applied to the inflamed surface, so that the solution may be daily rendered more astringent. I have told you that astringent injections are suited to every case of gonorrhœa at the commencement of the disease, and that, when properly used during the first, second, or

third day, they almost always cut it short. It is not so when the disease has attained its *acmé*, and the inflammation is at its height, accompanied by profuse discharge, chordee, &c. &c. Even then, however, injections properly managed will tend to assist the local antiphlogistic measures; but in such cases we must always commence by using mere mucilaginous warm water, and must add the astringents at first very sparingly, and must increase their proportions very cautiously. I omitted to observe, *that always, before using an injection, the patient ought to clear the urethra by voiding a little urine.* Such directions, gentlemen, may appear to many prolix and unnecessarily minute; but not knowing any author who has condescended to give accurate accounts respecting these matters, I have thought it my duty to lay them before you, being convinced of their utility.

Before I conclude, it is right to put you on your guard about the mischief which may ensue if you attempt to prescribe astringent injections during the secondary or inflammatory stage of gonorrhœa, without previously having ordered such general and local antiphlogistic treatment as is required to diminish the existing inflammation; nor will even this be sufficient to ensure success, unless you take care that your patient remains quietly at home for a few days, and observes a spare vegetable diet. A person who will not follow your directions in these matters, cannot use astringent injections during this stage of the disease with benefit or even impunity. In the first stage, and in the third, it is not absolutely necessary to enjoin rest and abstinence; it is, indeed, better and more prudent that the patient should remain in his room, and should observe low diet for a day or two; but in some cases this is impracticable, and then he must, as far as possible, avoid stimulant food and much walking exercise.

ON SCURVY.

EXTRACT FROM THE

REPORT OF DR. MURRAY,

Principal Medical Officer at the Cape of Good Hope.

[Continued from page 296.]

Memorandum respecting Scurvy, *by Surgeon Laing, Officer of Health.*

Cape Town, 1837.

Among those which touched here last year the vessel in which scurvy prevailed most was the "Coromandel," South Australian trader, with emigrants, a very fine ship of 662 tons, extremely roomy, and of great height between decks. She left the Downs on the 9th September, 1836, bound to the new settlement of South Australia, and arrived here on the 18th November, having had an average passage of 70 days. She had the proper complement of seamen, six cabin passengers, and 150 men, women, and children in the steerage; the "between decks," however, instead of being kept free and clear, was regularly boxed off, with a view to the greater comfort (?) and privacy of the married people, which doubtless prevented its proper ventilation, and *it was by no means kept clean.*

On the 24th October, having been only forty-five days at sea, scurvy was discovered to have broken out among the steerage passengers, and upon a strict examination at the time, twenty-eight cases, of different degrees of severity, were detected, which number gradually increased, and in the course of twenty-five days more, on the arrival of the vessel here, it had amounted to nearly eighty.

The females were the principal sufferers from it, and several of the children were labouring under *tabes*, of whom three died; but this is not an unusual circumstance in ships bringing out settlers, in consequence of the change to salt provisions, and the confined air, with crowding in a ship, which must always have a baneful influence upon lactation. Neither the crew nor the cabin passengers were at all affected. The principal symptoms were spongy gums, pains and stiffness of the limbs, loss of appetite, emaciation, with swelling, hardness, and discoloration of the extremities—this latter, however, to no great extent.

It appeared that both the lime juice and suet that had been provided, were of very bad quality, and that no proper stoves for ventilation had been supplied. To these causes the surgeon of the ship attributed the origin of the disease; but I think it is difficult to fix upon any single circumstance as the immediate exciting cause. I do not recollect an instance of the prevalence of scurvy in any other emigrant vessel. The "Australia," which arrived here on 28th February, 1837, bound to the same settlement, of only 155 tons burthen, and which had a

greater proportion of settlers on board, for her size—viz. twelve cabin passengers, and forty-four men, women, and children, in the steerage—had not a single case of scurvy, as far as I am aware. She left Portsmouth on the 22d December, 1836, and must have been exposed to more boisterous and wet weather. She had likewise a passage of seventy days.

It may be essential to mention that most of the steerage passengers of the "Coromandel" were tradesmen brought up in London, with several Germans, but few of the latter became scorbutic; and there can be little doubt, I think, that their former habits, when they came to be deprived of their accustomed comforts on board, contributed much to the formation, extension, and continuance of the disease.

During the year 1836, scurvy was much more prevalent amongst the whaling vessels than it had been for many previous years; which may probably be accounted for from their not having gone as usual to the *westward* to fish, but to the *eastward;* and having got into very high southern latitudes, where they encountered extremely wet and stormy weather: still, however, a difficulty exists to account for the greater prevalence of the disease in some vessels than in others. The American vessel the "Hibernia," a "*temperance ship*," though only out 8 months and a half, came into this port with the crew so disabled from it that they were unable to furl their sails, and obliged to get assistance from the other vessels in the bay: none of the crew, however, died from the disease.

In another vessel, ("the Zephyr,") out three years, all on board were in good health; but this vessel had touched at various places for refreshments during her voyage.

The prevalence of the disease on board the "Hibernia," may be accounted for, I think, from their having been far to the southward, near the islands of St. Paul and Amsterdam; and though she was out only 8 months and a half, yet the crew must have worked very hard; and in addition to the cold they must have been constantly wet. She had a full cargo (2400 barrels of oil), and the labour must have been incessant and the fatigue very great, to have procured so much in that short period. The American captains fancy that there is something in the water of the southern latitudes that predisposes more to scurvy than that of other climates; it is an opinion they have formed, and of which they appear convinced; but why, I could get no rational theory. I must add that the "Hibernia" had a very great portion of her flour damaged by salt water, the vessel having shipped some heavy seas before it was properly stowed.

The whaling vessels that put into this bay between November 1836 and February 1837, amounted to twenty-seven; all Americans, with the exception of two English and two French; and the period they had been out varied from eight to twenty months and upwards; and all of them were more or less affected with scurvy. The American captains further accounted for the occurrence and prevalence of the disease among many of their crews, from their being composed of raw land youths, many of them taken from the plough, and others who never had been at sea before. Their ships appear to be generally well provided with spruce, treacle, lime-juice, and other antidotes to scurvy; perhaps the best of these is their general success in whaling, notwithstanding that this does not hold good in regard to the Hibernia; for I have seen more than one instance where mental despondency contributed much to induce the disease. I may mention that a great many (indeed most) of the Americans were "temperance ships;" but I do not think, generally speaking, that these were more affected than others, although I am of opinion that in cold wet weather, when men are hard worked, an allowance of wine or spirits is often beneficial, and even necessary for the preservation of health.

I am not aware what number of cases were sent to Somerset Hospital, but I believe a very small proportion, and chiefly Frenchmen, and I am unable to speak of the treatment there followed; but the convalescence of the patients, both in the Coromandel and whaling vessels, was very rapid after their arrival here, though few of the passengers of the former were allowed to land. In the Hibernia, where the appearance of the disease was frightful in the extreme, I ordered the diluted muriatic acid, *ad libitum*, and the effect was astonishingly beneficial. I invariably recommended that the men should have a *free range*

on shore, and although the average stay of the ships did not exceed ten or twelve days, all the hands were nearly fit for duty before their departure.

In the scorbutic patients of the Hibernia, the gums were so much swollen and spongy that the teeth were scarcely visible; there was great difficulty of breathing, the extremities were thickened and hard, pulse small and rapid, and the prostration of strength such that the poor fellows could not crawl up the hatchway; and yet I saw those men walking about the streets in a few days afterwards.

The crews of the American vessels average about twenty-five or thirty men, and their tonnage is from 280 to 350; they carry no surgeons; but all the French and English vessels have surgeons. I cannot speak positively to the means of treatment used previous to their arrival here; but I believe it consisted of supplies from the cabin table.

Memorandum on Scurvy, by Surgeon Bailey, R. N. Superintendent of the Somerset (Civil) Hospital.

Cape of Good Hope, March 1837.

In the months of January and February last, 22 patients affected with scurvy were admitted into the Colonial Hospital here, from English, French, and American whaling vessels—a circumstance which I do not remember to have occurred at any former period while I have had charge of it, which has been for upwards of eleven years.

In the present day, this disease is rarely met with in ships; but about the end of the last and the beginning of this year, it has prevailed in several whaling vessels, and in two with convicts and settlers, which touched at the Cape on their way from England to New Holland.

Whether in these vessels it originated from any neglect or defect in their domestic economy, or from atmospheric influence, or from any other cause or causes, is a question I am unable to solve satisfactorily; but I have to state that apparently only a few of the whalers in these seas have suffered, although a great many have been fishing in the same places together, and that some of those affected had not been so long out from port as others on board of which the disease has not shewn itself. Only one vessel with convicts, the Earl Grey, which arrived in Simon's Bay after being seventy-one days out from England, and one with settlers, the Coromandel, seventy days from England, have had the disease, out of many others of these classes of vessels that touched here; and it has not appeared in any of the common trading vessels, so that I think it cannot be ascribed to atmospheric influence.

I had not an opportunity of seeing the cases, or personally investigating into the cause of the disease on board the convict and settlers' ships; but the men from the whaling vessels attributed their complaints to exposure to cold and wet, without a sufficient allowance of wine or spirits when they were obliged to work very hard under such exposure.

Several of the older hands said they had been much longer out at sea in other whalers without becoming ill, but then they had a more liberal allowance of wine and grog (some said they had also more peas and beans, and now and then molasses); and it is to this they chiefly attributed their exemption on former occasions.

I saw the disease many years ago, in the time of the French war, in some of the prizes which we took; and I then considered it to be owing to the vessels being badly found and regulated, or badly seasoned. I think it is very likely to occur in damp and badly seasoned ships, whether in cold or hot climates.

The crews in the prizes we took consisted chiefly of men who had not been much accustomed to a sea life, and were rather in depressed spirits, as if out of their element, which is a great predisposing cause of scurvy as well as of other diseases; and it is on this account that convict and emigrant ships require to be particularly well regulated.

I believe that if vessels becoming affected with the scurvy be kept out at sea, and cannot come into port to procure fresh meat, fruits, and vegetables, and obtain a cheering change for the sick, the patients will die in great numbers, whatever treatment they may be put under (*i. e.* whether tonic, saline, astringent, or antiphlogistic); but that if fresh fruits and vegetables can be procured in abundance, and if at the same time the vessels be clean, dry, and comfortable, not over-crowded, and well regulated, and the men be kept from desponding, scarcely any other remedies will be required.

I do not, however, by any means

consider it *indifferent* whether the accompanying mode of treatment adopted be tonic, stimulant, astringent, saline, or antiphlogistic.

It is certainly a curious coincidence that the troops stationed on the frontier of this colony, or more properly speaking those in the Caffer province of Adelaide, should have had scurvy prevalent among them at the same time it occurred in the vessels above-mentioned; when, as far as I can learn, this complaint was never known to have prevailed at any former period in that quarter, either among the troops, settlers, or natives.

When the scorbutic cases were admitted into the Somerset Hospital, Dr. Murray, who had been for some time previously studying the nature, causes, and treatment of the disease, in consequence of its having affected the military on shore, came frequently to visit my seafaring patients, and took a great interest in them.

It appeared clearly, from comparing the symptoms, that the disease was precisely the same in both situations; and that sea and land scurvy are therefore identical. It appeared no less evident that scurvy, and what is called purpura hæmorrhagica, are identical, and that purpura simplex is only a milder degree of the same disease. Our comparison of the details of the cases has dispelled the doubts which before existed in our minds, and which still seems to perplex the profession in regard to these points.

At Dr. Murray's request, a comparative trial of different and opposite modes of treatment was carefully instituted in my scorbutic cases, the day after their admission. According to old practice, I had put them all upon full diet, with extra fruit, vegetables, and beer, the first day, and had ordered them decoction of bark with acid; but on the second day, an equal number of them in different stages, and as nearly similar as possible with respect to symptoms, were placed on three different methods of treatment—viz. tonic, antiphlogistic, and saline.

In one set, the tonic plan, as first began, was continued. In a second set, a plan by venesection (if the case was considered to indicate and admit it), antimonials, purgatives (chiefly calomel and salts), refrigerants, diluents, and tepid pediluvia, was adopted, along with very spare diet (no wine, meat, or beer, but a little soup, with only half a pound of bread; but the same allowance of fruit and vegetables as in set one.) And, in a third set, the treatment was to give a purgative dose (ʒj.) of Epsom salts in quassia infusion every morning, with diet similar to that in the second set.

The first set had astringent gargles for the mouth, and stimulant embrocations, with flannel rollers to the extremities. The second and third sets had the most simple gargles, and used applications of warm vinegar with flannel rollers to their swelled, rigid, and discoloured extremities.

Three of the second set were bled to ʒxvj., ʒxij., and ʒvij.; in two the bleeding was repeated a second time to ʒvij. and ʒiv.; and in one it was had recourse to a third time to ʒiv., before the pains of the limbs, oppression at the precordia, and difficulty of breathing, were subdued; but the relief and advantage derived from it each time was marked and decided.

As they all had good appetites at the time of admission, the first set were highly delighted with their good allowance of food; but sets second and third were extremely disappointed, and grumbled sadly at the scanty pittance of victuals allotted to them, especially as they thought they required plenty to eat, from being so weakly, and saw their comrades, as they considered, better treated.

To my astonishment, I must say, I found that sets second and third amended in a wonderfully rapid manner, compared with set one, so much so, that in two or three days the worst of them were able to get out of bed and walk about; and, in ten days, nearly all of them were well; while of lot one, only two of the slightest cases were convalescent; one continued stationary, and two of them, in fact, were so much worse, that I was convinced of the expediency of changing the treatment, and adopting antiphlogistic measures for their relief, which proved most efficacious and satisfactory, as their recovery from that time was progressive and steady.

Of set, No. 1, it was found that the cases which were most severe, of longest standing, and most debilitated, were those that did the worst under the tonic and stimulating mode of treatment adopted towards them. They soon lost their appetites, became feverish,

thirsty, and restless at night, their breathing became very much oppressed (a distressing symptom in all chronic cases); the gums continued fungoid, and easily made to bleed; the œdema, contraction, and discoloration of the legs, did not decrease, the pulse became more rapid, the tongue foul, their head ached, their skin became hot and dry, and they continued disinclined, as well as unable, to get out of bed.

The slighter cases were the only ones of this set that recovered, *in reality in spite of the improper treatment.*

I consider the saline treatment employed in set 3d to differ but little from that in set 2d. It happened that we had to bleed one of this set, but only to a small extent (five or six ounces), for the relief of the oppression at the chest. I think, however, that the cases in this set were not quite so severe as those in 1st and 2d.

I published a letter in one of the Cape Town newspapers at the time, giving a brief account of the above-mentioned comparative practice which was instituted, feeling assured that it will afford an instructive hint to my professional brethren, under whatever circumstances scurvy may come under their treatment; and I feel anxious to learn the result of the experience of the military medical officers on the frontier, whose practice has been upon a more extensive scale.

Dr. Murray's Concluding Remarks.—It may appear to some that I have over-extended this paper by repetitions and superfluous details, but I must observe, that what may seem trivial and uninteresting to practitioners in civil life, is often of infinite importance to medical officers.

In requesting the foregoing reports from their respective authors, my object was to obtain as full an elucidation as possible of the source or causes, symptoms, nature, means of prevention, and cure of the disease which prevailed among our troops on the eastern frontier. The investigation has developed some discrepancy of testimony and opinion among them upon certain points, but I trust it will have thrown light upon the subject.

I would wish to impress upon the minds of military and naval medical officers, that to be able to discriminate the first indications or premonitory symptoms of scorbutic diathesis, to understand its pathology, discover its causes, comprehend their mode of operation, and form just views as to its prevention and cure in various situations, involves a study of paramount importance to their respective services.

Those who have witnessed the effects of scurvy know it to be one of the most insidious and disabling diseases that can attack an army or fleet; and the necessity of medical officers being well acquainted with, and on their guard to prevent it, is the more indispensable as it generally occurs under circumstances when the best means of cure (vegetables and fruits) are unattainable, in which case the best directed efforts of medical skill but too often prove unsuccessful.

The circumstances attending the occurrence of scurvy at the Cape at this time, reminds me of what happened when a disease of a similar nature broke out in the Milbank Penitentiary in 1823, and the most eminent physicians in London were consulted respecting it, upon which occasion considerable ambiguity and contradiction of opinion was found to exist among them in regard to its causes and nature; and indeed a great diversity of opinion still prevails in the profession upon these points. A zealous practitioner, however, will not adopt the opinion of any one without scrupulous examination, but will endeavour, by study and reflection, to obtain a comprehensive knowledge of every disease under his charge, in order to be able to form rational indications of treatment. "Every man," says Gibbon, "who rises above the common level, has received two educations; the first from his teachers, the second from himself;" and as medicine is not one of the exact sciences, no one really anxious for its improvement ought to conceive it a degradation to retract any erroneous opinions or practice he may have formerly advocated.

I have already confessed my former want of discrimination of scurvy, and must also take my share of blame in the want of success which attended the treatment of the cases in the 75th Hospital, at Cape Town. Lately, however, I think I have become better acquainted with it; and since it has been found that the antiphlogistic mode of treatment is most conducive to its cure, our former difficulties regarding it have in a great measure vanished, the means of cure are no longer so conjectural and complex,

and no cases of imperfect recovery have presented themselves to those who have adopted it.

The foregoing reports sufficiently point out the absurdity of the numerous divisions which some authors of limited experience or undiscriminating observation have made of this disease. The word "scurvy," in English, sufficiently distinguishes it in all its modifications; and in technical language, the term "scorbutus" (a barbarous Latin word), has been so long in use, that it will probably never give place to any of Greek extraction.

The appellation of "sea or true scurvy," used in contradistinction to the disease which occurs on land, as if the latter were a false species of it, has originated in error, and should be abolished; for there is no more pathological difference between scurvy at sea and scurvy on land, than there is between lues venerea at sea and lues venerea on land*.

The Greek term "porphyra," synonymous with the Latin one, "purpura" (signifying purple or livid disease), is proposed by Dr. Mason Good in lieu of scorbutus, and under this title he includes every description of petechial eruption and spontaneous ecchymosis, not dependent on fever as their cause, considering purpura in all its forms described in medical or surgical miscellanies as appertaining to scurvy, even when not attended with sponginess of the gums, which has been deemed pathognomonic of scorbutus by nosologists; but this name (porphyra) is objectionable, as the disease does not always exhibit purple spots or ecchymosis.

In my prefatory remarks I touched on the subject of the various names which have been given to different (evident) modifications of scurvy by different writers; and I would here further add, that I am of opinion that a great affinity exists between this disease and the affections termed *Pellagra*, *Cachexia Africana*, *Beri-Beri*, *Melæna*, *Hæmaturia*, *Hæmatemesis*, *Putrid Dysentery*, and perhaps some others which have got specific and distinct appellations.

* By the way, I consider the modern distinction of venereal into syphilitic and non-syphilitic, to be no less erroneous and absurd. I am often amused in tracing cases returned "Syphilis consecutiva" to primary symptoms described as "Ulcera penis non-syphilitica," and *v. v.* The distinction is generally imaginary, and often leads to error both in science and practice.

PLASTER OF PARIS IN FRACTURES.

BURNS AND SCALDS; TURNBULL ON VERATRIA.

To the Editor of the Medical Gazette.

SIR,

SOMETHING like an apology may be due to your readers for my again addressing you on the subject of treating fractures of the extremities by means of plaster of Paris casts; but when experience gives me renewed and firmer confidence in the excellency of the plan, I feel that I should ill discharge my duty to the community if I withheld from them the results of cases which have, in the course of the last few months, fallen in my way.

Although the employment of the plaster cast is chiefly applicable to fractures of the lower extremities, the subjoined case will shew that it may be adapted in the upper, especially in cases of *fractured olecranon.*

Sarah Matthews, ætat 73, fell and fractured the olecranon of the right arm, which had remained unreduced, at the time she was placed under my care, for three weeks. Apprehensive that, from the long continuance of the separation of the fractured ends of the bone, union would not take place—particularly when the woman's advanced age was taken into consideration, and being sure that, from her impatient temper, no ordinary splint or bandage would secure her—I determined on keeping her in bed, placing the whole arm, from the insertion of the deltoid down to the wrist, in a simple wooden trough, and enveloping it in plaster of Paris, so as to preclude all possibility of motion. At the end of four weeks, I released the arm, and had the satisfaction of finding that union had taken place. The old lady rejoices in the perfect restoration of the use of the limb.

On the 28th of June last, Mr. Read, a respectable farmer, æt. 71, fell, whilst in the act of reaching to unhang a collar from the wall of his stable, whereby he suffered a fracture of the right leg, about four inches above the ankle-joint. I reduced the fracture, and, at the end of a week, when the swelling had somewhat subsided, secured the limb in the plaster cast. The case went on satisfactorily, and at the end of six weeks he was released, a perfect union of the bones having taken place.

My next case was that of a young man, John Perham, who was employed on a public building in this town. A scaffold, upon which he was at work, gave way, and precipitated him to the ground from a height of twenty feet. He fell upon a heap of stones; other stones which were on the scaffold fell upon him. Upon taking him up it was found that the left leg was fractured: the tibia protruded through the integuments and stocking, insomuch that, in order to effect a reduction, it was necessary to remove about an inch and a half of that bone. Both it and the fibula were shattered in an unusually severe degree.

I determined *immediately* after the reduction to place the limb in a double-inclined plane, and envelop it in the plaster, leaving the upper surface of the leg uncovered for the length of eight inches and three in breadth, in order that the wound may be dressed, lotions, &c. applied, as occasion may require.

It was fortunate that I had so determined, because, in consequence of severe bruises inflicted on the body, he could rest only when supported by a bed-chair. At the end of ten weeks the plaster was removed. A perfect union of the bones had taken place, but there is a small wound, through which exfoliations of the bone will most probably be discharged. There is some deformity of the limb, which was inevitable in so severe a case; but, on the whole, the issue has been very favourable.

The cases above reported have been instructive to myself, and interested me in a more than ordinary manner. The evidence of Mr. Read in favour of the method of treating fractures I am advocating is very strong, and such as it rarely falls to the lot of any man to meet with, as he had now suffered a *fracture of the same leg three several times.* The *first* accident was occasioned by his leaping a ditch, about twenty-eight years since: both tibia and fibula were fractured. He was attended by a gentleman in his neighbourhood, who placed him on his back with the limb fully extended, than which no position can be more irksome or painful. Unfortunately for him, the splints were removed too early; the newly-formed bone bent by the weight of the foot, and a permanent curvature of the tibia ensued, which deformed and rendered him a little halt. *Four months after* this Read fell and fractured the leg a *second* time; was attended by the same gentleman, and treated in the same way. Mr. Read had suffered so very severely in consequence of the position in which he had been placed, that he dreaded the idea of being again placed on the back, not being aware of the difference between the more straight position and the double-inclined plane in which I put the limb. The experience, however, of a few hours convinced him of the superiority of the method now employed, to which he yields a willing testimony; for it may be truly said that, altogether, he had not had twelve hours suffering after the limb had been secured in the plaster.

In Perham's case, which is the first compound fracture I have so treated, I departed from my former route, and at once encased the limb in the cast; and this I think the better plan, where you happen to be called in before any considerable swelling of the limb has come on, because much of the tumefaction and pain is occasioned by the irritation of the soft parts from the broken ends of the bones; and this is obviated by the steady confinement and support afforded by the plaster.

In both these cases, the greatest advantage has been derived from the employment of this material, both from the ease experienced by the patients, and also from the ability given them of altering the position of the body, and of their being shifted from one side of the bed to the other, which is practicable without at all interfering with the curative process going on in the limb, hereby rendered fixed and immoveable. Read was moved daily from side to side, and thus had a new resting place. Perham merely changed his position from a lying to a sitting posture, and *vice versâ, ad libitum.*

A short time since I had an opportunity of seeing the model sent by Mr. Beaumont, of Berners' Street, to the College of Surgeons. That gentleman's plan differs greatly from my own, as he first applies an eighteen-tailed bandage round the limb, and places his patient on the side, with the limb in a flexed position.

These differences are, in my opinion, very material. In the first place, one great advantage derived from the plaster cast is the total disuse of all bandages, (which can hardly be applied, even by

the most skilful hand, with entire uniformity of pressure; and this very irregularity occasions much pain to the patient; but the plaster cast supports the limb throughout with a uniformity unequalled by any other means. In the second place, I am inclined to the opinion, that a patient could hardly bear that the limb should rest on the knee and ankle without the interposition of some soft substance. And, again, when a patient lies on the side, it is hardly possible to apply evaporating lotions, which can be very efficiently employed when he is placed on the back.

Mr. Beaumont's contrivance for keeping the limb extended whilst the plaster is being laid on, and retaining it till it is properly set, is ingenious.

I intend shortly to send a model of Perham's case to the College of Surgeons, in the hope that the attention of some gentleman of mechanical genius may be called to it, and such improvements made in the simple apparatus I have contrived as shall bring it near to perfection. It has been objected, that there must be a difficulty in removing the hardened plaster; but such is not the case, as the material cracks and gives way to a moderate blow from a light hammer and turnscrew or blunt chisel, without the least risk of injuring the patient.—I am, sir,

Your obedient servant,

W. Sweeting.

Bridport, Nov. 12, 1838.

BURNS AND SCALDS.

I have much pleasure in being able to confirm Mr. Greenhow's report of the efficacy of his method of treating burns and scalds, as I have been in the habit of employing it for many years.

TURNBULL ON VERATRIA.

In the last work published by Dr. Turnbull, on the efficacy of veratria in various diseases, and amongst them, on those affecting the eye, the case of Miss Palmer, of Weymouth, is reported as having been cured by this substance. I am concerned to announce the total failure thereof in respect to this lady, who is so blind as to be scarcely able to distinguish light from darkness.

W. S.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'Alembert.

Outlines of the principal Diseases of Females. Chiefly for the Use of Students. By Fleetwood Churchill, M.D., &c. Dublin, 1838. 8vo. pp. 402.

This book does credit to the industry and talents of Dr. Churchill. A work of so much research cannot be perused without profit by any class of students; yet we think it will be read with more advantage by those who have already a considerable knowledge of the subject, than by the mere beginner. The latter would prefer a sketch of this branch of medicine, unclouded by controversial statements; while the former will be glad to find that, under every point which admits of a doubt, the conflicting opinion of French, German, English, and sometimes of Italian writers, are quoted, or referred to. Hence Dr. Churchill's work reminds us a good deal of Cooper's Surgical Dictionary. The following passages are fair samples of our author's manner:—

He observes, that the uterine may be distinguished from vaginal leucorrhœa "by the circumstances in which it is observed, as, for example, after abortion and delivery; preliminary to, and vicarious of, the first menstruation, &c. &c., or by its peculiarities at the menstrual epochs, and its greater effect upon the constitution." (P. 135.)

Here is a part of his account of the treatment of uterine leucorrhœa:—

"There is no more striking distinction between the two species of leucorrhœa, than is to be found in the effects of astringent injections. In vaginal leucorrhœa they are extremely successful, the symptoms are ameliorated, and the discharge arrested without any unpleasant consequences. This is not the case in uterine leucorrhœa: if no evil results from their employment, the patient derives no benefit, but continues to labour under the discharge for months together*. In other cases, I have known

"* The substance of this chapter was published in the Edinburgh Journal, No. 121, and since that I have received several gratifying communications from professional gentlemen in this country and in England, as to the success of the plan of treatment I ventured to recommend. They have all especially instanced its efficacy in cases

them to cause great irritation, with menorrhagia and an aggravation of the local distress.

"In cases of the *acute form* of uterine leucorrhœa, it will generally be advisable to commence by cupping the loins or applying leeches to the vulva. After this, hip-baths and vaginal injections of warm water (a uterine warm bath) may be employed until the acuteness of the attack has subsided, and the patient is in a condition favourable to the application of counter-irritation.

"At this stage in the *acute*, and at any period in the *chronic* form, a blister may be applied to the sacrum, and repeated once or twice, if necessary. Its effect, in most instances, is an immediate diminution of the discharge, and a mitigation of the local uneasiness.

"There are four medicines from which I have seen benefit derived.

"1. Balsam of copaiba, given in increasing doses, commencing with 15 drops three times a day; or, if the stomach be delicate, it may be made up into pills.

"2. Preparations of iron, and especially the sulphate. The mode in which I have exhibited it is in combination with blue pill, and the compound rhubarb pill. It improves the condition of the digestive system, and appears to exert a decided influence over the leucorrhœa.

"3. Decoction of logwood. In two or three cases in which I made trial of this medicine, it seemed to be very useful; the discharge diminished, and the patients were ultimately cured.

"4. Ergot of rye. This remedy has been highly recommended by MM. Roche, Dufrenois, Bocquet, Negri, Ryan, &c., and, in some very obstinate cases in which I prescribed it, it succeeded after the failure of other medicines *. I gave it in doses of five grains three or four times a day.

"These are the remedies which I have found the most efficacious, but their effect is greatly increased by the previous application of the blister.

"There are other medicinal substances which have their advocates; powdered colchicum root was recommended in a recent number of the American Journal of Medical Sciences, but it failed in my hands.

"Iodine has been highly praised for its effects in leucorrhœa. MM. Brera, Gimelle, and Sablairolles, are said to have used it successfully in old and obstinate cases *. Gimelle gives an ounce of the syrup of iodine, evening and morning, in some appropriate infusion†.

"Nauche speaks well of aromatic medicines. My friend Dr. Hunt informs me, that he has succeeded in curing leucorrhœa by capsicum alone, in doses of two grains three times a-day.

"In some cases it will be advisable to prescribe some vegetable tonic, as the sulphate of quinine, along with these special remedies."

It is to be hoped that the destructive operation of cutting out the neck of the uterus will not again be attempted in this country. Dr. Churchill says he is not aware that the attempt has been made; but we believe that it has been made more than once.

The following passage may aid in preventing a repetition of these trials:—

"I. *Excision of the neck of the uterus.*—This is an operation which has been performed repeatedly on the continent, though but rarely in this country; and opinions as to its propriety and safety have varied very much.

"Osiander excised the cervix, with more or less of the body of the womb, nine times with success‡, the subsequent hæmorrhage being easily restrained.

"M. Dupuytren§ performed the operation fifteen or twenty times, with success.

"M. Hervez de Chegoin also operated successfully in one case related by M. Duparcque.

"But the great advocate for this operation (the *apostle* of excision, as Dr. Balbirnie would call him) is M. Lisfranc. On his evidence, professional men were almost persuaded that it was as simple and safe as his cases were numerous. It has been shewn, however, by M. Pauly||, that his operations

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where injections had failed. I can truly add, that my own confidence in it keeps pace with my increased experience."

"* See Lisfranc, p. 379—note by M. Pauly."

"* See art. Iode, by M. Solon, in Nouv. Dict. de Méd. et Chir.

"† See cases in Journal Univ. des Sciences Méd. tom. 25, p. 5.

"‡ For a succinct account of Osiander's views see Edinburgh Med. and Surg. Journal, vol. xii. p. 286."

"§ Duparcque, Traité des Altérations, &c. p. 437. Journal Gén. de Méd. vol. cix. p. 214."

"‖ 1. Instead of the 99 operations stated by M.

were fewer in number than was asserted; and that so far from being either safe or successful, several died within twenty-four hours after the operation, and a considerable proportion (more than two-thirds) were ultimately lost.

"In consequence of this discovery the operation is now regarded with great suspicion."

A remarkable case is given in the note, at p. 284-5, of a woman who bore a child, though she had an irreducible *prolapsus uteri;* and curiously enough, after giving the history of the case from Nauche, our author immediately gives it again from Capuron, and calls it "a similar case."

If the plan of the present volume is approved of, Dr. Churchill means to publish another one containing the diseases of women which occur during pregnancy and child-bed. We wish all possible success, both to the forthcoming work and to the one which is now before us.

MEDICAL GAZETTE.

Saturday, December 8, 1838.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

CASES OF MALAPRAXIS.

In our last article on this subject (November 10), we gave three cases of malapraxis occurring in Germany, together with the judgments of the medical tribunals to which they were submitted. In all these instances the accused may be considered as having been found guilty, and punished; for although a punishment *eo nomine* was inflicted only once—although Dr. X. alone was fined, yet the reproof bestowed upon the midwife and the surgeon, in the other two cases, must be deemed to be pretty severe punishments. In a profession like ours, where reputation is subsistence, whatever sullies the one destroys the other: "a breath has made them," and a breath can unmake them.

In the cases we are about to detail from the same respectable source, the practitioners are equally unfortunate; and one of them, as our readers will see, more culpable, or more severely visited than his fellow-criminals, is actually struck off the list of surgeons; yet, in spite of his legal non-existence, he continues to *malpractise!* So difficult is it to put such laws in force, even in despotic states; what, then, could be expected from the inquisitorial regulations which some medical reformers would wish to inflict upon this country?

Let us now proceed to consider a few more of the instances accumulated by Dr. C. F. Koch for our instruction; the first being an inquiry into the conduct of a midwife:—

Mrs. P. had borne children seven times safely and easily; she was now pregnant for the eighth time, when, on the evening of the 5th of February, the waters came away unexpectedly. S., the midwife, was sent for, but during the first hours of her attendance she did not make an examination; (this, however, she denied.) After midnight the midwife wished to fetch an accoucheur, but the woman and her husband refused to

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Lisfranc to have been performed by him, only 53 can be made out.

"2. There are no exact accounts of the failures which happened in hospital.

"3. Out of nineteen private patients operated upon, only one has been permanently benefited.

"4. Of these nineteen cases, four died within twenty-four hours, twelve had an immediate relapse, and in two others, the carcinoma not being entirely removed, the patients only sank the more rapidly.

"5. Out of nine patients operated upon under M. Pauly's observation, and near whom he remained twenty-four hours, six were attacked with frightful hæmorrhages; and of these six, three died within twenty-fours.

"In addition, abundant proof is afforded, that in many cases excision was utterly uncalled for by the nature of the disease (p. 476). Such facts are enough to deter the most hardy from attempting this fearful operation; and the exposure of such mis-statements is a striking lesson to all who, in order to make a reputation, are ready to forsake the paths of honour and truth.—Lisfranc, Mal. de l'Uterus, p. 427, *et seq.*"

allow it. In the morning, however, the mother-in-law came in, and insisted on having an accoucheur sent for. Accordingly the midwife called upon one, to inquire if his presence was necessary. The accused stated that she had immediately examined the woman, and found that the os uteri was open to the size of a half-crown, and that the elbow presented; but that she wished to satisfy herself more perfectly of the position before she called in an accoucheur. About ten o'clock she found that it was an arm presentation, and told them that she could not complete the delivery herself; but the woman and her husband would not hear a word of it. Meantime several hours passed away without pains, during which the woman occasionally slept.

Mr. M., a surgeon, deposed that the midwife came to consult him, and that he went with her directly. The woman did not allow him to examine till after being repeatedly persuaded by the husband; and he then found the right arm presenting, and the shoulder wedged in the pelvis. He introduced his hand, caught hold of the feet, and brought them down to the entrance of the pelvis. The powerful contraction of the uterus now paralysed his arm, so that he was obliged to ask for the assistance of another accoucheur. This he obtained in the person of Mr. H., a *Kreis-Chirurg*, or distinct surgeon; a man, therefore, of superior professional rank to an ordinary practitioner. With his assistance a dead child, at the full time, was brought into the world, the two surgeons relieving each other from time to time. The woman screamed violently, and lost much blood. The cause of death appears to have been inflammation of the uterus.

Mr. H. deposed that he found the woman very hot and thirsty. The right shoulder of the child was wedged in. He first injected milk and oil, and then introducing his hand, he brought down the feet with great exertion, because it was only with great exertion that the shoulder could be removed from the entrance of the pelvis. The patient lost blood, but this was not the cause of death: she sank under inflammation of the uterus and peritoneum. An emulsion was prescribed, of poppy-seeds, with nitre and a few grains of extract of hyoscyamus; injections of resolvent herbs with hyoscyamus; and frictions with volatile liniment and tincture of opium. Mr. H. afterwards ordered ten or twelve leeches to be applied to the abdomen. In the evening the pulse was much quickened, and there was great restlessness; and so it was on the next morning, when he saw the patient for the last time.

The board give rather a long opinion on the merits of this case. In the first place they observe, that the questions whether the midwife shewed herself so ignorant as to be unworthy of the exercise of her art, and whether she was guilty of the death of the mother and child, are to be separated from each other. As to the first question, they pleasantly remark, that *if* it were proposed to them, they should undoubtedly say "Yes!"—but they are unable to give a decided answer to the second one for want of facts.

As to the child, they say, we hear nothing more of it than that it was born at the full time, large and dead. It does not seem that the accoucheurs made any attempts at resuscitation, and it may therefore be supposed that they thought it had been long dead; yet they do not back this opinion by any argument.

The midwife alone declared that the child was living when Mr. M. came in, but without giving any grounds for this supposition. In any case, turning is so dangerous an operation for the child, that one in three, on the average, is sacri-

ficed by it. The attempts, however, of the accoucheurs to deliver the woman do not seem above censure. Mr. M. confesses that he introduced his hand into the uterus to turn the child, before he had tried to push back the presenting shoulder, and dilate the uterus; indeed, he pulled at the child's feet, though he was of opinion that the shoulder was still wedged in the pelvis, under which circumstances he could hardly introduce his hand into the uterus. Mr. H. attempted delivery in the same way, and succeeded; but we are not informed how it was accomplished by the *alternate* efforts of the two surgeons.

Hence it appears—first, that it has not been made out that the child was alive till the time of birth; secondly, that it is doubtful whether the child came into the world dead, or only apparently so; thirdly, that it cannot be decided whether the child's death was caused by the accoucheur's method of proceeding or not; and lastly, as turning is a most dangerous operation for the child, even under the most favourable circumstances, it cannot be decided whether the midwife caused the death of the child by her negligence. As to the woman's death, it appears that she had considerable hæmorrhage after delivery (the separation of the placenta is not mentioned); that she complained of violent pain in the abdomen, with heat and a quick pulse; that she was restless, and had no sleep; that on the following morning she suffered from hiccup and vomiting; and that she occasionally wandered in her mind, with great depression of strength, till death closed the scene.

The Board thought it very probable that the patient died of inflammation of the uterus, as the accoucheurs supposed; but that the midwife might retort their accusation, namely, that she had injured the genital parts of the patient by undue violence, and had *alone* caused her death.

It must be confessed that all the parties in this case are roughly handled; and as we once before observed on a similar occasion, unless midwifery is conducted in Germany with a perfection quite unknown to this country, this must be considered an example of exceptional justice, where a few are picked out for censure, and multitudes err unreproved.

In the next three instances, a surgeon, named S——, was the criminal.

G. broke his thigh-bone by a fall from a carriage; Mr. S. being called in, used extension by the pulley, fastening the rope to the patient's foot, and to the lock of a door which opened inwards; but neglected to shut the door. On drawing the rope, the door flew open, and caused the patient violent pain. The surgeon then put on a wooden splint, reaching from the hip to the heel, and fastened the foot to two iron half-hoops, in such a fashion that the fragments of the os femoris were pushed far over each other. The fracture was a compound one. The surgeon treated his patient only six weeks, during which time his condition became so bad, that when cured, his thigh was quite deformed.

The Board acknowledged that fractures of this kind take long in healing, and are apt to leave deformities behind; but on the other hand, they declared the incautious application of the pulley, and the putting up the thigh in such a way that the fragments of bone overlapped each other, to be proofs of ignorance and gross carelessness.

In the next case, the same surgeon was called in to treat the child of a mechanic, aged fifteen months; it had been restless for several days, cried a great deal, and was suffering from diarrhœa, and pain on pressure of the abdomen. He prescribed a mixture of the tinctures of opium and cinnamon, in the proportion of one part of the former to three of the latter, of which

six drops were to be taken every hour. Immediately afterwards the child fell into a state of sopor, with swelled abdomen, laborious respiration, and a small, trembling pulse. The child lived for several days under the treatment of Dr. X., which was by no means perfect. The Board decided, that although the return of the child's disease was very doubtful, still the prescription of the accused could only have proceeded from unskilfulness.

It is difficult for us to give an opinion upon this case, as we do not know the strength of the tincture of opium prescribed. If we recollect rightly, in the Saxon Pharmacopœia, there is a Tr. Opii three times the strength of the London one. But let us suppose the tincture to have been of the same strength as ours. The patient took a drop and a half every hour, which would be a dangerous dose if often repeated. It would seem, however, that the child fell into the state of sopor, after a dose or two, if we understand the phrase "immediately afterwards." Could this be a case of poisoning by opium? According to Christison, the ordinary duration of a fatal case of poisoning by opium, is from seven to twelve hours, the extremes being three and twenty-four; but this child survived several days. We do not know whether these two unlucky cases gave the *coup-de-grâce* to the professional existence of surgeon S.; but in the title of the next one we found it stated that he had, in the mean time, been removed from practice.

In the last instance this unskilful practitioner was called in by a midwife to a woman in labour with a preternatural presentation, the funis having prolapsed. The case is interesting, but too long to give in detail. Let it suffice to say, that he cut off the child's arm, and left a crotchet sticking in the woman, while he sat down to supper. A pain came on, and a dead child and the crotchet were expelled at once. The woman died on the eleventh day after delivery, apparently of puerperal fever. The Board censure the surgeon's obstetrical and malapraxis as being beyond, or, as we say, beneath all criticism; nor does the midwife escape unscathed; she knew, say the Board, that the funis presented at noon, but did not send for further assistance till night.

In considering these cases, together with those which we have laid before our readers four weeks ago, there are two obvious conclusions to be drawn from them. The first is, the preponderance of obstetrical cases. Out of seven instances of malapraxis, four are purely obstetrical. Considering how small must be the number of obstetrical cases requiring manual assistance compared to the whole number of surgical operations, this seems singular. Perhaps, because the majority of labours are so easy, some practitioners are unprepared for any difficulty; and in Germany the number of bad cases must be increased, by the custom of employing ignorant midwives in the first instance.

The other conclusion is, that in the practice of the healing art, inattention brings a man into more scrapes even than ignorance. The case of Mrs. S., the patient who laboured under hepatitis, is a glaring instance of the effect produced by prescribing for a case without seeing it; and in the case of the eminently unskilful surgeon S., his coolly sitting down to supper while the crotchet was sticking in his patient, and his omitting to see her after her confinement, no doubt contributed more to his disgrace than the ignorance of the elements of midwifery, with which he is reproached by the Board. Nor is this unjust; for independently of the cases lost by negligence, the feelings

of the patients must be deeply wounded, when the indifference of the practitioner is but too obvious; and if the object of the healing art is to relieve pain, such conduct is a gross infraction of its rules.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

November 27, 1838.

Memoir on Tuphlo-Enteritis, or Inflammation and Perforative Ulceration of the Cœcum and Appendix Vermiformis. By JOHN BURNE, M.D., Physician to the Westminster Hospital.

THE author of this paper laid a memoir on the same subject before the Society, in May 1836 (vide Med. Chir. Trans., vol. xx.), to which latter the present might be considered a supplement. The author commenced his second memoir by some observations, anatomical and physiological, on the causes of the comparatively pretty frequent occurrence of tuphlo-enteritis. He was of opinion that the ordinary result of spontaneous inflammation of the cœcum was resolution, but that perforation of the intestine was a consequence to be looked for in most cases, in which the inflammation depended on the presence of an irritating substance, impacted in the appendix. The cure of tuphlo-enteritis by resolution was then illustrated by particulars of three cases; the author insisting strongly on the use of mercurials and saline aperients, as the best remedies in addition to local blood-letting. The history of perforative disease of the appendix especially, was then entered on. The author first pointed out the great variety of local relation for which the appendix was remarkable, the organ varying much in its place of origin, in its length, in its position, and presenting in consequence, much and embarrassing variety in its apparent seat and symptoms. Four cases were then given of tuphlo-enteritis, arising from perforation of the appendix; of which three were verified by dissection. The author next made some remarks on the diagnosis between spontaneous tuphlo-enteritis and that occasioned by disease in the appendix; in which he held that in the former, when the bowels were relieved, amendment usually followed; whereas, in the tuphlo-enteritis from diseased appendix vermiformis, no such benefit could be expected to follow purgation without the removal of the irritating substance. After detailing a case of fatal tuphlo-enteritis of the latter kind, the author made some observations on the literary history of the disease. He, in the first place, stated that he had in his former paper omitted, inadvertently, to make due acknowledgments to Dr. Copland, as an author who had, in his Dictionary, given "extensive information on the diseases of the cœcum;" and then proceeded to criticise the statements and opinions of several other previous writers, foreign and domestic, with a view to shew that they had misapprehended the facts they had observed—viz., Dupuytren, Husson, Dance, Menière, Ponceau, and Louyer Villermay, in France; and Mr. Ferrol, in Ireland. The author then stated summarily his own views as to the causation of tuphlo-enteritis, viz.—1. Fæcal accumulations in the cœcum; 2. Presence of worms, concretions, &c.; 3. Previous chronic disease of cœcum; 4. Perforation of cæcum or appendix. The author then made some further observations on the diagnosis of tuphlo-enteritis in general, and on its varieties in particular, and concluded his paper by a numerical analysis of twenty-one cases of tuphlo-enteritis that had fallen under his own observation. Of these, eight died; nineteen were acute; eleven were simple inflammations of the cæcum, and all recovered. Two were chronic disease of the cœcum, and both fatal; six were instances of perforation of the appendix, of which five were fatal. One was perforation of the cœcum from within—recovered; and one was inflammation of appendix, with peritonitis—fatal. Sixteen were males; two were under 10, and three over 50, and the rest distributed over the intervening years. Six were gentlemen; the others of the labouring class. Most occurred in autumn and beginning of winter.

WESTMINSTER MEDICAL SOCIETY.

Saturday, 24th November, 1838.

MR. F. HALE THOMSON, PRESIDENT.

New Mechanical Apparatus of Mr. John Read.—Poisoning with Carbonic Acid Gas.—Dr. Reid on the Signs of Pregnancy.

MR. JOHN READ, the well-known and ingenious patentee of the stomach-pump, was introduced to the Society by Dr. J. Johnson, for the purpose of explaining the construction and use of an apparatus which he had invented for withdrawing atmospheric pressure from any portion of the surface of the body. The machine exhibited by Mr. Read consists of a large glass cylinder, into which the entire arm

may be introduced, and fixed by a copper, or gum elastic, or leather band, which embraces the limb so closely as to hermetically seal the tube. At the closed end of the cylinder is a stopcoek, which communicates with a flexible tube proceeding to the pump, which is employed in exhausting the air in contact with the surface of the confined limb. The valves employed by Mr. Read in this air-pump are exactly the same as those of the common stomach-pump.

Mr. Thomson, the president, placed the machine on Mr. Read's bare arm, and moved the piston two or three times. The circulation of the limb was soon visibly impeded, and a moisture was perceptible on the inner surface of the glass. Two more movements of the piston made the vacuum so painful to Mr. Read, that he cried out for relief.

Mr. Read's invention is an improvement upon the pneumatic apparatus of M. Junod, by whom the cylinders are made either of glass or of copper, and of various sizes, so as to include an arm, a leg, or half the body, as may be desired. This machine is now extensively employed in France as a therapeutic agent, acting upon the old principle of *derivation*. It has been employed successfully in apoplexy, hemiplegia, amenorrhœa, palpitation of the heart, and (by producing a temporary collapse) in reducing difficult dislocations. M. Junod's apparatus consists of three chambers. Besides the cylinder and the syringe, there is a small intermediate chamber, to which a barometer is attached, for the purpose of measuring the degree of vacuum to be produced. This appears, however, to be a piece of supererogatory refinement, for the sensations of the patient are a sufficient index of the pressure for the guidance of the practitioner. The intermediate chamber of Junod, called the *receiver*, is a transverse cylinder of copper; four stop-cocks are attached to it, and communicate with the various cylinders. The valves of the pump of Junod are very inferior to those of Read, being springs (like the keys of a flute), and therefore very liable to get out of order. Read's valves being simple globes, may last for twenty years.

Some discussion has recently been excited touching the merit of the invention. Sir James Murray and M. Junod both claim originality, but it really appears that the principle is pretty nearly as old as Methuselah. Mons. Dionis, more than a century ago, writes on dry cupping; and in the beginning of the present century Dr. Ralph Blegborough published a paper, in which he entirely anticipates the present inventors.

Mr. Read's apparatus has the merit of economy, for the pump may be used as well for a stomach or rectum syringe, or may be employed to inject air into the lungs of asphyxiated persons. In order to prove its powers in this last respect, Dr. Kingston passed a short tube, terminated by a hilt, into the fauces of Mr. Read, who had previously, as far as possible, emptied his lungs by a powerful expiration. The hilt, already named, hermetically seals the mouth, and the nostrils are to be closed by an assistant, who, after three strokes of the piston, is to relax his pressure upon the nares, that the air may escape. By this means an artificial respiration is kept up, and if there is any vitality left in the patient, every chance of re-igniting it is afforded.

In reply to a question from the President, Mr. Read stated that the expenses of a box of apparatus answering all these purposes, was 4*l.* 10*s.*

After the retirement of Mr. Read, Dr. Chowne inquired of Dr. Golding Bird if the evidence ascribed to him by a report in the *Times* of that day, and referring to a case of supposed poisoning by carbonic acid, was correct. In the *Times*, Dr. Bird was made to say that *twelve* per cent. of carbonic acid diffused in the air, was sufficient to produce death; but that *ten* per cent. was not. He (Dr. Chowne) would be glad to know of Dr. Bird whether he really thought that the *two* per cent. constituted the difference between life and death?

Dr. Bird replied, that the evidence ascribed to him by the reporter in the *Times*, was not only not correct, but the precise contrary of what he said. It was not to be supposed that he could state that 10 per cent. of carbonic acid could be inhaled with impunity, when he knew that 8 per cent. was sufficient to produce a spasmodic closure of the glottis. What he really stated in evidence was, that different quantities of carbonic acid produced different effects; four per cent. would produce coma, a little more asphyxia, and from 8 to 10 per cent. suffocation, by spasmodic closure of the glottis. With regard to the man who died in St. Michael's church, in the city, a difference of opinion existed. Mr. Cooper, the eminent chemist, thought that the carbonic acid, when generated, would be rendered specifically lighter by the augmented carbonic, and consequently ascend to the top of the chamber; whence, as it cooled, it would gradually descend, and mix in wholesome proportion with the atmosphere, thus proving totally innocuous. In his (Dr. Bird's) opinion, this law of the admixture of gases was not proved. In all crowded assemblies, in all ventilated apartments, in the *Grotto del Cane*, and in the celebrated

Valley of Death in Java, it *was shewn that carbonic acid* had no great disposition to intermix with other gases, but remained in dense strata near the ground. In St. Michael's church, near the stone where the man lay dead, the air over the floor was highly impregnated with carbonic acid. In stooping to collect some of it in a phial, he (Dr. B.) was affected with headache and throbbing of the temples; and some water, which he held in his hand, was *instantly* made turbid.

The heat emanating from the stove was never higher than 68° Fah., and therefore not sufficient to cause, as had been stated, an unwholesome exhalation from the adjacent tombs.

His (Dr. B.'s) observations were not directed against Harper and Joyce's stove in particular—this was certainly a most elegant contrivance—but against all such apparatus in which no sufficient vent was given to the gases generated by the combustion of charcoal.

This subject exciting a good deal of interest, Dr. Reid, by whom a paper was announced to be read this evening, "On the Signs of Pregnancy," offered to postpone his paper till another evening, if such were the pleasure of the society. This proposal, however, was overruled by the President, who directed Dr. Reid to proceed according to the regular course of the business of the night.

Dr. Reid accordingly read a very succinct and perspicuous essay on the signs of pregnancy. The greater part of the evening being exhausted in the previous discussion, he omitted a great part of the detail of the subject: he passed over altogether the general signs of pregnancy, and considered *seriatim* the individual signs. As regarded each of these, he quoted the opinions of all the most eminent obstetric writers that have written within the last century, either in this island or on the continent. He compared their several statements, together with his own experience, and the conclusion to which he arrived was, that no *one* sign could be considered *certain*, but that a collection of these signs might afford the highest possible moral certainty.

The enlargement of the mammæ, though general, is not universally present in pregnancy. The existence of a brown areola round the nipple, though common, yet is occasionally wanting in the pregnant woman, and sometimes present in the virgin. The projection of the mammillary follicles is equally uncertain, and the same ambiguity may be predicated of the mucous serosity which occasionally covers the nipple. Dr. Hamilton, of Edinburgh, however, places a high value on these symptoms. Sickness may be produced by enlargement of the womb from any cause, and may be altogether absent. The catamenia do not cease in some women after conception. The enlargement of the abdomen, and even of the womb, may occur without pregnancy; so may also, consequently, the prominence of the navel. The occurrence of what is called quickening is a very delusive circumstance, and may exist purely in the imagination of the patient. Even the motions of the child may be imagined, and may consist merely of contractile movements in the parietes of the womb. The examination per vaginam may perhaps afford the best criterion; but it is difficult to deduce a correct law as to the state of the os tincæ. M. Velpeau states that in pregnancy the vagina invariably presents a violet or purple colour. Dr. Reid has not much faith in the French mode called the "*ballottement.*" Even the presence of the hymen is not inconsistent with pregnancy, as was evident in the case related on the previous Saturday by Mr. Streeter.

The stethoscope, or even the application of the naked ear, afforded good means of diagnosis in the latter months of pregnancy. The fœtal pulse can by this means be distinctly counted; but occasionally, from a change of position of the child, the sound of the pulsation is lost for some time, and after an interval again becomes audible. The *bruit de soufflet placentaire* is sometimes present in the cases where any tumor compresses the large arteries of the abdomen, and therefore cannot be considered a safe criterion. The application of an acoustic tube to the os uteri would be nearly impracticable in this country, from the refined delicacy of our women.

The discussion of this important subject was, by general consent, postponed to next Saturday evening.

IDIOS.

REPORT ON WEATHER AND DISEASE AT HAMBURGH, IN 1837.

[Concluded from p. 310.]

Fourth epidemic: the Measles. — Single cases of measles began to appear in August, and were epidemically diffused about the middle of October. The epidemic first broke out in the higher part of the new town, which lies towards the north-west, then spread over the whole town, and reached its acmé towards the end of the year.

The first cases were of a mild sort, so that in October there were only two deaths, from measles, while the number in November was 23, in December 61, in

January (1838) 48, and in February and March 16 each. The precursory symptoms were of a gastric character, and it was rare that the eruption was preceded by pains in the limbs, or bleeding from the nose. The eruption was regular, was generally very thick, and remained visible a long time; the attendant fever was commonly very moderate. The cold in the head, and the affection of the eyes, were also slight; the cough, indeed, was mostly dry for some days, but was rarely accompanied by any important degree of oppression, but much more frequently by a vomiting, which very much relieved the patient. Diarrhœa was a frequent occurrence, and from its violence occasionally a dangerous one; in December, however, it was rarer, and gave place to the complication with thoracic inflammation, which not unfrequently gave rise to hepatization of the lungs, as appeared in dissection. Bronchitis was a rarer complication in proportion, in this epidemic, as were also sore throat and croup. Otorrhœa and transient deafness were common.

The activity of the skin varied extremely: in the beginning of the epidemic the patients were often, as it were, bathed in perspiration, which, at a later period, was more rarely remarked: the desquamation was seldom considerable. In a few cases the little patients were seen suffering under regular asthmatic attacks; and towards the end of November, and in December, several cases of measles occurred, which must be designated as altogether nervous or asthenic. The eruption was mostly of a livid colour, the pulse quick and small, the sensorium dull, and a sense of oppression was present; there were no evacuations; the tongue was dark brown, with fissures, or else red and smooth. In such cases warm baths, with cold effusion, occasionally did good, but the majority died about the third or fourth day. The reporter in one week lost three children, of the ages of four, five, and six, belonging to a very indigent family, in one sick room, by measles of this kind. Adults, too, were not spared by this epidemic, and sometimes died by metastasis to the nobler internal organs; but this was more the case in the first months of the year 1838, for among 86 deaths by measles up to the conclusion of 1837, there was only one person more than ten years old; while among 80 deaths by measles in the first three months of 1838, there were three adults. Excepting these cases, the children who fell victims to the epidemic were chiefly either those who were cutting their teeth at the same time, and sank under convulsions during the time of the eruption, or else those who were already in a state of atrophy, or had a deformed chest (*pectus carinatum*), &c.

On the whole, the epidemic must be looked upon as of a favourable kind, as the number of deaths bears a very small proportion to the great number of cases, the epidemic having spared but few houses. It was interesting to see the measles in several cases immediately followed by chicken-pox, which was generally thick. In a very few cases these exanthemata ran their course together, which did not make the patient's condition worse.

In the beginning of the epidemic diarrhœa was frequently an after-disease, and sometimes proved fatal by exhaustion. Another sequela was stomacace with aphthæ, in many cases where not a grain of calomel had been taken. At a later period the more frequent sequelæ were the numerous host of scrofulous affections, chronic cough, incipient phthisis, and the like.

And now for a few words on the other diseases of the year. It is obvious from what we have already said of the *genius epidemicus* of 1837, that catarrhal maladies were the most frequent. Besides the influenza colds were very common in March; in April catarrhal fevers were very frequent among children, and often so intense that local blood-letting was necessary. These fevers often terminated in a branny desquamation, and sometimes during their first days were attended with an eruption like that of scarlatina. The cough was often spasmodic, and the sputa sometimes bloody. In adults, in whom they were upon the whole milder, they were sometimes complicated with angina, and the larynx was pretty often affected. The crisis generally came on with perspiration. In May, under the mask of catarrh, inflammation of the chest was often concealed in children, which even at a tender age required venesection, but in many cases terminated fatally, chiefly from the diagnosis being too late; in older persons the catarrhal fever sometimes changed into a nervous one. From this time catarrhal diseases were rarer, until after the middle of October, when they reappeared in greater number, and with increased intensity, particularly among children, and accompanied the year to its conclusion.

Rheumatism did not always appear as a mere complication of catarrhal maladies; several times, too, those cases were seen, which have been observed for some years, where the rheumatism, which had appeared fixed in one or other extremity, suddenly transfers itself to the heart or brain; and then, neither checked by abstraction of blood, nor by counter-irritation, nor by any other remedy, soon destroys the patient—circumstances which

more frequently occur among the higher classes. The Bills give nine deaths from rheumatic fever, and eleven from acute rheumatism. In children the extremities were often seen stiffened and inflexible from rheumatism. Rheumatic inflammations of the eyes and ears, angina, lumbago, toothache, and even rheumatic paralysis, were frequent.

Gastric diseases were frequent only about the time of the cholera, with the exception of the dyspeptic affections to which the higher classes are subject yearly towards the end of their winter feastings. Jaundice, in particular, was seldom observed this year; diarrhœa, stomacace, and aphthæ, were the most frequent, the last being occasionally combined with the symptoms of nervous fever. Among inflammatory diseases the number of pleuropneumoniæ alone were considerable; 310 persons died by this disease, of whom 124 had not yet reached their tenth year. Inflammation of the brain was rare; 44 cases were fatal. Hydrocephalus is given as the cause of death 188 times; *gastromalacia* (softening of the stomach), 24 times; croup, 47 times.

Nervous diseases were not very rare. Convulsions proved fatal to 353 children, and one woman. *Trismus neonatorum* was fatal in 36 cases. There were 18 deaths by *asthma thymicum*, 1 by *asthma Millari*, 14 by asthma, 21 by epilepsy, and 22 by delirium tremens. The number of fatal cases of nervous fever was 154, of which, however, only 17 had the typhous character, the majority appearing originally as gastric or gastro-venous fevers.

Diseases of the vascular system were, on the whole, not frequent. The large number of deaths from apoplexy (of whom 349 are put down to sanguineous, and 145 to nervous apoplexy), arises chiefly from the epidemic influenza having destroyed old people in this manner. *Hæmoptysis*, *hematemesis*, and hæmorrhage from the uterus, carried off 36 persons, and *morbus petechialis* was fatal to 4. Bloody diarrhœa was observed especially in children, sometimes accompanied by tenesmus, and not seeming to be connected with dentition.

As to chronic diseases, it is evident from the account of the influenza that the number of chronic diseases of the chest must have been very considerable, and therefore 972 deaths by phthisis will not appear surprising. Dropsies were common, and proved fatal 300 times. Lastly, gout, epilepsy, and the most varied forms of scrofulous cachexia, were not rare.

Eruptions accompanied by fever were very rare, with the exception of measles and chicken-pox of the most favourable kind. Small-pox occasioned only nine deaths, which is much below the yearly average at Hamburgh. Scarlatina, which scarcely appeared but in the first half of the year, and then only sporadically, is mentioned as the cause of death five times. *Urticaria* and *Zoster* appeared occasionally. In our account of the influenza we have already spoken of *Herpes labialis*, and of erysipelas. The latter proved fatal 16 times, besides a case of Erysipelas neonatorum.

Eruptions unaccompanied by fever were likewise not very frequent.

Hooping-cough and agues were seldom seen.

[Slightly abridged from a paper by D. R. Warburg, in the *Zeitschrift für die gesammte Medicin*, for September 1838. Besides his own observations, Dr. Warburg had access to those of the Medical Society, and to those of the Dispensary physicians (*Armenaerzte*), who treated 14,297 cases, so that his deductions are drawn from a large collection of facts. The fewness of the deaths from small-pox—only 9 in a population of 130,000—is worthy of note.—Translator.]

WEEKLY ACCOUNT of BURIALS.

From Bills of Mortality, *Dec.* 4, 1838.

Abscess	41	Inflammation	22
Age and Debility	7	Bowels & Stomach	2
Apoplexy	9	Brain	9
Childbirth	4	Lungs and Pleura	8
Consumption	53	Influenza	5
Convulsions	24	Insanity	3
Croup	1	Liver, diseased	2
Dentition or Teething	5	Measles	6
Dropsy	8	Mortification	2
Dropsy in the Brain	3	Paralysis	6
Epilepsy	1	Small-pox	11
Fever	7	Sore Throat and Quinsey	1
Fever, Scarlet	11	Stricture	1
Fever, Typhus	6	Thrush	1
Heart, diseased	3	Unknown Causes	107
Hernia	1		
Hooping Cough	3	Casualties	8
Hydrophobia	1		

Increase of Burials, as compared with the preceding week . . . 126

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

	Thermometer.	Barometer.
November.		
Thursday . 29	from 37 to 50	28·62 to 28·75
Friday . . 30	44 51	28·85 29·10
December.		
Saturday . 1	43 47	29·45 29·40
Sunday . . 2	44 49	29 36 29·43
Monday . . 3	42·5 49	29·39 29 40
Tuesday . . 4	37 49	29·45 29·58
Wednesday 5	32 47	29 69 29 94

Wind, S.W.

Rain fallen, 1 inch and ·825 of an inch.

Charles Henry Adams.

Erratum.—At page 346, *for* "cathothydrops" *read* "catholhydrops."

Wilson & Son, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, DECEMBER 15, 1838.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

Gentlemen,—We now come to a class or order of diseases of the greatest importance, whether considered in relation to the character and reputation of the practitioner, or the health and comfort of the patient. As relates to the patient, there are perhaps no diseases which inflict greater suffering, more speedily break down the health, and finally lead to a fatal termination. As relates to the practitioner, it should be his duty to qualify himself, by diligent study, for investigating and determining the nature of these diseases. This I state, because the mode of inquiry in cases of the description under consideration differs materially from that ordinarily practised in the generality of other disorders. In most of the disorders which afflict the human body, the attention of the practitioner is exclusively directed to those disturbances which manifest themselves in the general operations of the economy. Those disturbances produce certain deviations from the healthy functions, and if the effects are sufficiently obvious and characteristic to be recognised by the senses, the practitioner may perhaps be able to form a tolerably correct notion of the nature and extent of the disease. Such signs may be termed the functional signs of disease. But in many cases such evidences are not only obscure, but even ambiguous, and it would not be difficult to shew that a reliance upon such evidences has led not only to erroneous views, but even injudicious modes of practice. As examples, I have only to recal your attention to the diseases of the chest, which were the subject of our earlier consideration. How many cases of bronchitis have passed for consumption, and how many instances of *false* cure have been handed down to us. The similarity of functional manifestations between (tubercular) phthisis and many of the forms of bronchitis, renders any thing like a correct diagnosis founded upon such symptoms wholly impossible. The immortal Laennec has not only pointed out to us our former errors, but has furnished to us the means of detecting and correcting them. The stethoscope, and other modes of exploration, have enabled us not only to detect the nature of the disease, but to determine almost to a fractional of space, the locality and extent of the morbid condition in the respiratory organs. The information afforded by the stethoscope is valuable, because the conclusions are certain, inasmuch as they are founded upon principles which cannot possibly err. There are certain principles in physics which are almost as certain as the mathematics, and when we have made ourselves acquainted with these principles and their various modifications, we have acquired the means of obviating all sources of fallacy or ambiguity.

A similar mode of reasoning will apply to the diseases to which I am about to direct your attention. The functions of the urinary system exert certain influences on the economy, and so long as these functions continue healthy, the general economy will be preserved from any derangement derived from this source. But if from any unnatural condition of the urinary organs, their functions should be-

come deranged or depraved, the general economy will suffer to a corresponding extent; and as frequently occurs in other cases, the only obvious evidence of disease will be in the general economy itself, or in the functions of some other organs at a distance, and, as it were, unconnected with the primary seat. How often has it happened that incipient diabetes, or diseases of the bladder and kidneys, have been confounded with indigestion; nor has the error been detected, till the mercury administered for the correction of deranged hepatic functions has induced irremediable organic disease, or even fatal disorganization of the primary seat. It is of the utmost importance to keep these facts in our recollection, and not to decide too hastily upon modes of treatment, nor upon a cursory view of the symptoms. A local disease, for instance, may produce but few, if any, and very slight local symptoms, while the constitutional disturbance will be the most prominent feature in the complaint. Were we to adapt our means to the obvious or more prominent character, we probably should have reason to repent our too hasty decision. An examination of the urine will always enable us to determine this point.

The healthy condition of an organ may always be determined by the manner in which it performs its functions. It is the function, for instance, of the liver to secrete bile; of the kidney to separate the urine from the blood. The composition and character of these principles, therefore, will enable us to determine, at least to a certain extent, the healthy or morbid condition of the secreting organ. If a particular or special organization produce a particular effect or function, we cannot conceive any, even the minutest deviation in the properties of the functional manifestation, without a corresponding change in the organism. Hence the secretions and excretions*, or at least the physical and chemical properties, may be regarded as a tolerably correct index of the anatomical condition of the organic structure. There are certainly slight or evanescent deviations, which are but transitory, and consequently indicate nothing of importance; but when the deviations become permanent and more extensive they indicate disease, and require more serious attention. It is upon these principles that this subject will be treated in the ensuing course.

I have been diffuse upon this subject, because I am anxious to inculcate the necessity and great importance of attending to the state of the urine in these diseases, and not only in the special diseases themselves, but also in the diseases of other organs, and of the system at large. It would be an insult to your understanding to attempt any proof of the first proposition; and your own observation will have convinced you, that the urine presents many deviations from the healthy condition during the progress of other diseases —as well local as general. The altered conditions which this excretion undergoes will often enable us to determine the probable duration or positive termination of febrile diseases; and they also afford no less certain evidence of the morbid state of the organs in mere local affections.

Here, possibly, it may be asked, if so much and so valuable information is to be obtained by attention to the state of the urine, how is it that the subject has obtained so little, at least by no means its fair proportion of the attention of the profession? This may be accounted for variously:—Medical men who have not practically attended to the subject, have imagined that such inquiries require a much greater degree of chemical skill and address than is really necessary for their successful prosecution. But I trust I shall convince you, during this course, that this is a hasty and unfounded opinion, and that even a less degree of chemical address is required for this purpose, than for those toxicological researches which are daily undertaken by all classes of practitioners in medicine. From the above feeling, lecturers and teachers in general do not undertake to teach practically, and by example, the modes of chemically examining the urine, and consequently the student hears merely an enumeration of the functional signs, which, as already observed, are often fallacious, and frequently lead to false notions. A third reason probably is, that the diseases of the urinary system are considered as belonging more exclusively to surgery; and hence the teacher of medicine enumerates them rather as objects essential to his nosological classification, than as proper objects for his department; while the surgeon, on the other hand, treats them only in relation to surgical operation. The late Dr. Marcet was the first to treat this subject scientifically, and the attention which his lectures generally obtained induces me to hope that the subject will not be found wholly devoid of interest on the present occasion. Before, however, entering upon the diseases of this system, it will be necessary to have a

* By secretion is understood any thing separated organically from the blood, and applied to some useful purpose within the body. Excretion is any thing similarly separated, and thrown off as useless or injurious—as urine, sweat, carbonic acid, &c. This excludes the fæces, which is a peculiar, and as it were, mechanical separation of the intestinal contents into the *recrementitious* and *excrementitious* portions, without entering the blood.

knowledge of the chemical constitution and general properties of healthy urine, that we may be able to distinguish its variations when diseased. In order to study the characters or properties of bodies, they should be arranged according to some fixed and intelligible principle. The properties of the urine may, therefore, be conveniently arranged according to the following relations:— the sensible, the mechanical, and the chemical properties.

The urine is separated from the blood by the action of the kidneys; and as many principles are found in the former, no trace of which can be discovered in the latter, it may be useful first to take a hasty survey of the nature, composition, and general properties of the blood, as this, perhaps, will materially assist us in studying the functions of the kidneys.

Blood is that well-known fluid sent out by the ventricles of the heart to the arteries, by the minute ramifications of which it is conveyed to all parts of the body. In its passage through the different structures, the various secretions and excretions are separated from it by what are termed the secreting and excreting vessels, and it is then returned by the veins to the right side of the heart. The blood in the right side of the heart differs materially, at least in some of its sensible properties, from that in the left. In the former, it is of a deep purple or blackish colour; in the latter, of a bright red or vermilion.

Blood drawn from a vessel, and examined by the microscope, is seen to consist of minute particles, floating in a transparent colourless fluid. These are the red particles, generally named the globules of the blood. They are not, however, globular, but present the appearance of flattened circular discs. The usual mode of preparing the blood for microscopical observation has led to the error as to their globular form. Water, with which the blood is usually mixed, has the property of altering the form of the red particles; but a very dilute solution of chloride of sodium, or of sugar, or even of serum, has no effect of this sort. Of this, and of the flattened circular form of the particles, you may satisfy yourselves by examining blood prepared by each of these methods upon this slip of glass. As I bring them successively into the field of this microscope, you perceive the flattened circular appearance of the one specimen, and the irregularly globular appearance of the other.

The transparent colourless fluid, in which you see the red particles floating in recently drawn blood, is termed the lympha, or liquor sanguinis. This liquor sanguinis must not be confounded with the serum, from which it differs, inasmuch as it holds the fibrin in solution. But as fibrin speedily coagulates when evacuated from the vessels, it separates in the form of a solid mass, enveloping in its coagulation the red particles, forming what is termed the crassamentum, cruor, or clot; when blood drawn from a vessel separates spontaneously into crassamentum and serum. The fibrin is that white elastic fibrous substance which is frequently observed forming the superficial white crust, termed the "buffy coat" of inflammatory blood. It may be easily obtained by exposing the coagulum in a linen cloth to a stream of water from a pipe. The red particles are thus washed away, and the fibrin is left behind. You see in this specimen the fibrin separated from the red particles by the above process.

Fibrin may also be readily shewn in a separate state by the following process:— If recently-drawn blood be stirred with a rod or twig, and when the blood has coagulated, the rod be washed in water, the red particles will be removed, and the coagulated fibrin only will remain, occupying the interstices between the branches of the twig like a piece of membrane, as you observe in the example now presented to you.

Fibrin may be shewn, also, in its dissolved state. Many saline matters have the property of preventing the rapid coagulation of the blood, and the liquor sanguinis, viz., the serum holding the fibrin in solution may be separated from the red particles by mere filtration. This is most easily shewn in the blood of the frog, the red particles of which are so large that they do not readily pass through white filtering paper.

There are, however, other methods of demonstrating the same fact. Some saline solutions have the property of retarding the coagulation even of human blood. Thus, if we add a few drops of a very concentrated solution of carbonate of potass to the blood of man, or to that of any vertebrated animal, the coagulation will be retarded, and the red particles in the meantime subside. In the space of about thirty or forty minutes a soft coagulum is formed, the under part of which, as you may here observe, is red, from the deposition of the red particles; while its upper portion, as you may see, remains white. Nitrate of potass, and also sulphate of soda, if added to recently-drawn human blood, prevent the coagulation. Here you see an example of this fact: the coagulation here also has been prevented, and the liquor sanguinis remains in its perfect and fluid state.

Fibrin, when coagulated, is soluble by digestion in diluted acetic acid, and is

precipitated from its solution by the ferro-cyanide of potassium.

When the coagulum has separated, we find remaining a yellowish-looking fluid, possessing a slighter degree of tenacity, named serum. Serum has a slight alkaline reaction, from the presence, according to Marcet, of soda. It contains some animal and mineral salts, with some animal principles, the chief of which is albumen. Albumen possesses some analogies to fibrin; but still there are some peculiarities of character sufficiently distinctive. Fibrin coagulates spontaneously shortly after its evacuation from the vessels. Albumen does not coagulate unless its solution be exposed to a temperature of from 150 to 160° Fah., or from the action of chemical reagents. If albumen be cut into slices, and exposed to a gentle pressure, a sort of opaline or slightly opaque fluid, of a saline taste, oozes out from it, which has been named the "serosity" of the blood. No such oozing is observed in fibrin from a similar treatment. If coagulated fibrin be digested in diluted acetic acid it is dissolved; if to this solution a solution of ferro-cyanide of potassium be added, a yellowish precipitate is thrown down. Albumen is precipitated white, from a neutral or slightly acidulous acetic solution, by ferro-cyanide of potassium; but coagulated albumen does not dissolve by digestion in diluted acetic acid. In the following reactions you will see experimental confirmations of the above propositions:—

Blood, though a homogeneous-looking fluid when first drawn, is evidently of very complicated composition. The specific gravity of human blood is very various, but may be stated to range between 1·045 and 1·055. The specific gravity of serum is estimated at about 1·028; but Dr. Marcet makes it 1·0295. The composition of blood is, therefore, as follows:—

Water.		
Red particles, Fibrin, Albumen	Named by Berzelius the albuminous principles.	Lactates of soda, with accompanying animal matter. Muriate of potass*. ——— soda†.
On incineration, the ashes yield		Oxide of iron, alkaline and earthy phosphates, and sulphates.

The red particles, when burned, yield the oxide of iron and the earthy phosphates; the incinerated albumen and fibrin yield traces of the sulphates and phosphates, but none of iron. From the fact that silver is tarnished by serum, and a sulphuret of the metal formed, it is evident that it contains sulphur. Vogel ascertained, that characters written on paper with acetate of lead, are rendered legible by exposure to the vapour arising from serum heated for several days to between 75° and 90° Fah. Serum kept for some time exhales the odour of hydrosulphuric acid gas (sulphuretted hydrogen,) and blackens the salts of lead, as you may observe in this specimen; which consists of serum about six weeks old, and diluted with four parts of water. On withdrawing the stopper and heating it gently, not only does the odour become sensible, but the exhalation, as you perceive, renders evident these characters written on white paper with a solution of lead. Berzelius therefore thinks, that the phosphates, sulphates, and oxide of iron, evolved by the incineration of the fibrin, albumen, and red particles, were formed during the combustion; and that they existed originally in their most simple or uncombined form, as phosphorus, sulphur, calcium, &c. and iron.

The relative proportions of these ingredients vary considerably, not only in different persons, but in the same persons at different periods. The average proportion of serum to crassamentum is as 3 to 1. The proportion of colouring matter to the fibrin was found by Berzelius, upon one occasion, to be as 1·8 to 1, or nearly as 2 to 1. Physiologists have enumerated other principles in the blood, as *cruorin*, hæmatin, &c.‡; but it is not the object here to enter into the minutiæ of physiology. I therefore merely state such facts with regard to the physiology of the fluids, as are essen-

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* Chloride of potassium.

† Chloride of sodium.

‡ The following elaborate analysis of the distinct substances in the blood has been given in his Thesis, by M. Lecanu. They amount to 25 in number:—

1 Free oxygen.	14 Carbonate of soda.
2 Nitrogen.	15 ——————— lime.
3 Carbonic acid.	16 ——————— magnesia.
4 Extractive.	17 Lactate of soda.
5 Phosphuretted fat.	18 Fatty acid salt.
6 Cholesterine.	18 Yellow colouring matter.
7 Seroline.	20 Albumen.
8 Free oxalic acid.	21 Water.
9 Margaric acid.	22 Fibrin.
10 Hydrochlorate of potasso.	23 Hæmatosine.
11 ——————— soda *a*	24 Albumen.
12 ———————ammonia.	25 Globules,*b*
13 Sulphate of potass.	

The three last but one constitute the cruor-clot, or coagulum.

a Chlorides, potassium, and sodium.

b Red particles.

tial to a thorough knowledge of our immediate subject. At our next I shall consider the general properties of the urine as well in a state of health as of disease.

The *urine* is separated from the blood by the *kidneys*, two excreting glandular organs, situated one on either side the lumbar spine, between the spine of the ilium and lowest rib. They are, as it were, buried in the fat of the loins, resting on the quadratus lumborum, and *on the lowest part of the diaphragm*; and I must beg to direct your attention particularly to this connexion, as it will explain a sympathetic symptom to be noticed hereafter.

The kidneys, as you see in these examples, present four surfaces; two broad and irregularly flat surfaces; one sharply convex, pointing outwardly; and that looking towards the spine, deeply notched or sulcated. They lie behind the peritoneum, that is, they are not invested by that membrane, which merely passes before them. They receive their arteries directly from the aorta, and the emulgent or renal veins enter the cava. They have a proper tunic, of a firm consistence, being condensed cellular tissue, almost fibrous. They consist of two parts: one external, named the cortical; the other internal or medullary. The external or cortical is the secerning part, and consists of the minute ramifications of the emulgent arteries: this is some lines in thickness. The next division is what is termed the medullary portion; it commences with the tubuli uriniferi. These tubuli are continued into conical projections, named papillæ. The papillæ project into the calices or infundibuli, of which the pelvis may be considered as the enlarged reservoir. The pelvis, as it proceeds from the notch, terminates in a membranous tube, termed ureter. The ureters enter the under and posterior part of the bladder, behind the neck, penetrating the coats obliquely, so as to render a reflux of the urine from the bladder almost impossible, as you may observe in the example before you.

The functions of the kidneys consist in separating from the blood that complicated fluid named urine. Urine consists of a large proportion of water, holding, in its healthy state, a number of animal and saline principles in complete solution. Berzelius has carefully analyzed urine, and as his analysis is that mostly adopted by chemists and physiologists, we shall adopt it here. His analysis of one thousand parts of healthy human urine affords the results expressed in the table upon the board, viz.:—

Water		933·00
Animal and destructible principles	Urea	30·10
	Lithic acid	1·00
	Free lactic acid? lactate of ammonia and animal matters inseparable from the above (osmazome, soluble in alcohol; extractive, soluble in water)	17·14
	(Vesical) mucus	·32
Sulphate of potass		3·71
——— soda		3·16
Phosphate of soda		2·94
——— ammonia		1·65
Muriate of soda		4·45
——— ammonia		1·50
Earthy phosphates, with trace of fluate of lime		1·00
Silex		·03
		1000·00

Healthy urine, recently passed, and while warm, presents the following general characters. It is a fluid of a light amber colour, and perfectly transparent. It has a peculiar odour, somewhat aromatic, and resembling in some measure that of violets. Taste saline, bitter, and rather disagreeable. The specific gravity will naturally vary from very trivial and transient causes. Any cause, the agency of which is to increase the watery portion, without affecting the animal or saline principles, will reduce the specific gravity; while any agency (*relatively*) diminishing the proportion of water, or increasing that of the saline or other principles, will increase the specific gravity.

In this jar you see some distilled water, into which I immerse this instrument called an hydrometer, and you observe that it sinks to nearly the end of the stem. I now introduce a little common salt; and you observe, that as the salt dissolves, the stem emerges from the fluid and rises above the surface, indicating an increase in the density of the fluid. This is the way in which the specific gravity of the urine increases when the saline principles are increased in relation to the watery portion. But now let me add to this same solution of salt

some distilled water: now you observe the stem sinks, shewing that the density of the solution is reduced by the increase of the water in relation to the saline ingredient. It is thus that watery diluents, administered internally, reduce the specific gravity of the urine, by increasing the secretion of the watery portion. The average specific gravity of healthy human urine has been estimated at between 1·010 and 1·015. I think myself that between 1·012 and 1·017 is the more common range. [Here several specimens were examined in proof.]

The temperature of healthy human urine varies with a variety of circumstances; but the general standard is about 92°. It varies, however, from about 75° to 112° or 120° Fah.

The quantity likewise depends upon a variety of adventitious or accidental circumstances; such are, the nature, quantity, and quality of the food and drink; and these, indeed, have great influence upon all the foregoing properties of the urine. The average quantity, however, may be estimated at between two and three pints in the twenty-four hours.

All the above properties you have an opportunity of seeing exemplified in the present specimens, viz. the light ambery colour; the transparency; the aromatic odour, *sensible* only in those specimens which are yet *warm;* the specific gravity, varying as you see from 1·013 to 1.019. The quantity can be ascertained only by collecting and measuring the quantity of urine passed during a definite period, and repeating the experiment several times, with certain intervals between.

The chemical properties depend upon the chemical composition of the urine. Healthy, it reddens litmus paper; and by immersing pieces in these specimens, the blue colour will be changed to red,—as you see.

The aromatic odour leaves the urine as it cools; and in those specimens which have become cold, the *aromatic* odour, as you observe, is no longer perceptible; but you find that another and peculiar odour has succeeded the aromatic. This odour has been distinguished by the term *urinous.* In this specimen, which has been kept for some days, you perceive another change in the odour—a sort of sour smell, and which has been compared by some to that of *sour milk;* it is a sort of sour odour modified by an *animal* one. Lastly, in this specimen, which has been kept till decomposition has commenced with the putrefactive process, a *fœtid ammoniacal* odour is very perceptible. This is the odour which is perceived in those public places of frequent resort allotted for relief to this natural call. You also perceive, on examining these various specimens, the gradual transitions from the most perfect transparency to cloudiness, and an approximation to opacity, and ultimately the formation and subsidence of deposits. Hence you will see the necessity of keeping the urine, that you may observe the changes in the sensible properties, and the rapidity with which they succeed; for from such phenomena much of great importance is often to be inferred:—"Ex his enim, similibusque, sæpe curandi nova ratio ducenda est."

CLINICAL LECTURE

ON

CARBUNCLE—SPONTANEOUS PARTIAL INVERSION OF THE UTERUS—IRREDUCIBLE OMENTAL HERNIA—INFLAMMATION OF THE HAND FROM INJURIES OF THE FINGER,

Delivered at St. Bartholomew's Hospital,

By Wm. Lawrence, F.R.S., &c.

George Haycroft, 54 years of age, a mechanic, of good constitution, always enjoying good health, was received into the hospital on account of a carbuncle at the back of the neck, which had begun, according to his statement, a month previously. As no treatment had been adopted except poulticing, it afforded an opportunity of observing the natural course of the malady. It had caused severe pain, swelling of the neck and stiffness, so that he could not turn his head; want of rest, loss of appetite and feverishness. He had not, however, been confined, nor had he entirely given up his employment, even for one day. It had been discharging several days when he came to the hospital. There was an inflammatory swelling, of circular figure, as large as the half of an orange, at the back of the neck. In the centre of the tumor there was a large irregular opening in the skin, exposing cellular sloughs, soaked in matter, and nearly detached. A few small openings were seen in the skin round the larger one; and a healthy, thick, yellow discharge, proceeded from all of them. The inflammatory tumefaction had nearly subsided, the integuments remaining of a dull red as far as the extent of the original carbuncular inflammation. The pain and feverishness were nearly gone; the appetite and rest had returned.

June 28, 1838.—Meat diet; a dose of the senna mixture; linseed poultice.

July 2.—The part to be dressed with the resin ointment.

10th.—Discharged well.

Sarah Gosby, 32 years of age, and unmarried, a person of spare habit, who considered herself of healthy constitution, and had usually enjoyed good health, was admitted into the hospital June 11, 1838. Nine days previously a small painful pimple had formed on the back of the right shoulder. This had gradually increased, with aggravation of suffering, loss of appetite and rest, to the time of admission, when a carbuncle was found at the back of the shoulder, about three inches in diameter, presenting a gentle convex rising, with the integument of a dusky or livid red, surrounded by a broad areola of bright redness. At the centre there was an opening in the skin as large as a split pea, exposing a yellow slough, while around and near it there were several minute round apertures, from which a small quantity of purulent matter exuded. When it was intimated to her that she might be relieved by opening the part, she expressed her determination not to submit to the use of the knife.

Twelve leeches to the swelling; linseed poultice; a dose of opening medicine; milk diet.

12th.—The part is more inflamed; but her resolution respecting the operation is unchanged.

13th.—The complaint still increasing, with severe and incessant burning pain, which entirely prevents rest. She now wishes for any thing to be done that may afford some relief. An incision across the carbuncular swelling in its whole extent, and to the depth of an inch and a half, with a perpendicular cut of similar length and depth, crossing the former at right angles. There was free, but not considerable bleeding from these incisions; and the part was afterwards covered with linseed poultice.

14th.—The patient passed a good night, and is much better to-day. Matter has flowed freely from the incisions: the progress of the carbuncle is stopped, and the surrounding inflammation is lessened.

15th.—The patient looks and feels weak.

Quin. Disulph. gr. ij. thrice daily; six ounces of Port wine daily. Lint thickly spread with resin ointment to be applied under the poultice.

18th.—The swelling has abated; there is free suppuration, and sloughs of cellular membrane have been discharged. The skin is rather hot, and the pulse accelerated. The wine discontinued: an opening draught immediately.

22d.—Still a little feverish; the complaint proceeding favourably.

The quinine to be discontinued.

From this time recovery proceeded rapidly, but the process of cicatrisation was slow, as the opening in the integuments was large, and the granulations exuberant. She did not leave the hospital till July 24th, when the part was not quite healed, although the health had been for some time completely restored.

Edward Morris, 46 years of age, a stout man of low stature, following the occupation of weaving, in the habit of drinking beer and spirits, indulging sometimes freely, came into the hospital on August 16, 1838, for a carbuncle on the loins. The complaint had existed about three weeks, and he had continued at work till the last three or four days, when he had been prevented by the severity of the pain, which had entirely destroyed rest. The carbuncle was a tolerably regular, firm, convex rising, of circular figure, and fully four inches in diameter, situated in the right lumbar region. The integument, of a dusky red and partially livid hue, was perforated by numerous small holes, through which there was a sparing discharge of matter. The immediately surrounding skin was slightly swelled, and bright red to a considerable extent in the entire circumference; so that the inflammation measured about twelve inches in its longest diameter. The pulse was not much accelerated, and the constitutional disturbance was altogether less considerable than might have been expected with so serious a local malady. I made a crucial division of the carbuncle, the incisions going through the whole extent of the inflamed and thickened mass, which was fully two inches in depth, but not embracing the surrounding areola. Profuse bleeding ensued from numerous vessels, and sixteen or twenty ounces flowed in a very short time, with the effect of dissipating almost entirely the surrounding redness within a few minutes. The bleeding continued, in a greater or less degree, for some hours; and the sister of the ward represented that at least forty ounces were lost altogether, without, however, causing faintness or producing any decided feeling of weakness.

Linseed poultice. Five grains of Pil. Sapon. c. Opio at bed-time. An effervescing saline draught every six hours.

Matter was discharged freely at numerous points. Complete relief from the severe burning and throbbing pain ensued, the patient slept well, and expressed himself as quite comfortable the next day.

17th.—Meat diet.

18th.—Resin ointment to the incisions. Recovery proceeded rapidly and uninterruptedly, and the patient left the hospital quite well on September 17th.

I lately attended a gentleman, between 50 and 60 years of age, with a large carbuncle at the neck. He was of spare habit, with rather sallow complexion, and had long suffered from dyspepsia, for which he had been accustomed to take medicine and pay considerable attention to diet. It was about ten days after the inflammation in the neck began that I first saw him. He had then an inflammatory tumor of brawny hardness, with dull red and somewhat livid discoloration, as large as the palm of the hand, immediately below the occipital ridge on the left side of the neck. This was the seat of severe throbbing and burning pain, which had prevented rest for the preceding week. The head was immoveably fixed, and the patient could not have turned it to save his life. There were a few small openings in the skin, with hardly any sensible discharge. I made a crucial incision through the inflamed and indurated mass, which was about two inches in depth. It was followed by profuse hæmorrhage; at least three pints of blood were lost in about an hour, and it continued to flow abundantly. I therefore introduced into the incisions lint, soaked in a saturated solution of alum, pressing it down firmly, and adding other pieces, so as to fill up the cuts. This plan was successful in stopping the bleeding, but diminished the amount of relief usually afforded by the operation, as the suppurative process was checked by the astringent, and the escape of matter was further prevented by the lint, which continued closely adherent for forty-eight hours. Still the patient had some sleep in the first night, the inflammatory mischief was arrested, and in a few days, under the application of the resin ointment, an abundant suppuration was established. The whole of the cellular membrane which had been the seat of carbuncular inflammation sloughed and came away. I removed one mass two inches long by one in width and in thickness. No medical treatment was necessary, except for the purpose of regulating the bowels. In a week the patient had a good appetite, and was able to take nearly a full diet; and at the end of a month he went out for a daily airing in his carriage.

Carbuncle is a peculiar inflammation of the adipose and cellular tissue immediately under the skin, the latter being necessarily involved in the mischief, from its intimate connexion with the other structures. The parts are not only highly inflamed—in a state of the highest vascular excitement, but remarkably indurated, so as to feel brawny and hard, and to afford considerable resistance to the knife. Minute suppurations, in endless number, are dispersed in all directions through this inflamed and indurated mass; we see them from the size of a pin's head to that of a pea and bean: they contain a healthy matter, which appears in numerous larger or smaller round drops, or can be squeezed out in that form on the surface of incisions. When we consider the number of such suppurations, and the unyielding nature of the texture in which the matter is contained, we can account for the severe throbbing and burning pain, the sense of tension and confinement, and the serious constitutional disturbance, which attend this complaint. Another character of the complaint is the disposition of the inflamed texture to slough. When we make our incisions, we find more or less considerable portions of a yellow colour, indicating the commencement of mortification; such parts are subsequently separated; and the sloughing process not unfrequently affects the whole of the previously inflamed and indurated mass.

The openings, which occur spontaneously in the skin, give issue to the contents of the superficial suppurations only, and do not relieve the part generally. The inflammation, therefore, continues to spread in the circumference, rendering the local malady more formidable, and aggravating the constitutional irritation. Thus elderly persons of unsound constitution sink under the disease, when it has not been efficiently treated at a proper period, and more especially when it is seated in the immediate neighbourhood of the occiput.

Sometimes, however, the carbuncle ceases to spread after attaining a certain magnitude. A large slough of cellular membrane forms in the centre of the swelling; the integument perishes secondarily, in consequence of its vascular supply being intercepted: thus a large chasm is formed in the middle of the disease, which constitutes a convenient outlet for the internal suppurations. This cure of carbuncle by a natural process is exemplified in the case of Haycroft. In Mary Gosby, who would not at first submit to incision, there appeared no probability of the complaint ceasing to spread. In Morris, the carbuncle and the surrounding inflammation had attained the magnitude of a dinner plate, and was still actively proceeding; while in the last instance, of the most dangerous position which the disease can occupy, the indurated inflammation was spreading rapidly, with no signs of natural relief.

Under such circumstances, the only way of rescuing the patient from imminent and serious danger is to make the incisions described in the preceding cases, and to take care that they shall completely go through the carbuncular mass in length and depth. In general this treatment immediately arrests the inflammation; the free bleeding

effectually unloads the excited and distended vessels, while the incisions discharge a great number of the suppurations, and take off the painful tension of the part. The only circumstance immediately connected with the operation that requires attention is the hæmorrhage, which is sometimes profuse, and might be dangerous, although the bleeding vessels are merely those of the adipose and cellular tissue, enlarged and excited by the local disturbance. The depth of the incisions, and the difficulty of separating their sides from the dense and unyielding state of the tissues, renders it nearly impracticable to secure the bleeding orifice by ligature; we must therefore avail ourselves of astringents, of pressure, or of the two means combined. At all events, the patient should not be left until the bleeding has ceased.

Spontaneous partial Inversion of the Uterus.

Sarah Smith, 32 years of age, a maid-servant, was admitted into the hospital on June 12th, 1838. She had always enjoyed good health, and felt herself quite well at the time of her admission. Three years ago she had borne a child, and the catamenia had been perfectly regular since that period. She had menstruated three weeks before she came to the hospital. She represented to me that she had a swelling in the private parts. I found, on examination, a tumor hanging from the external organs, as large as my fist. It was largest in the middle; a little smaller above and below. Observing a transverse fissure in the middle of its inferior end, I at first supposed the case to be a complete prolapsus uteri, but could not recognize the usual appearance of the os tincæ. The surface of the swelling, in its upper two-thirds, was smooth, pale, and nearly dry: this was obviously the vagina completely inverted. The lower third was a soft, almost villous, red surface, moistened by colourless mucus, and was soon recognized by the characteristic folds as the cervix uteri inverted. A defined line marked the boundary between the vaginal and uterine portions of the tumor. She stated that she had experienced a bearing down and uneasiness for five months; that a protrusion had occurred at the external parts for three months, going up of itself after she had lain down at night; that the swelling had been down permanently for the last three weeks, though she had continued to perform her duties as a domestic up to the very day of her coming to the hospital. The mucous membrane of the inverted cervix uteri was healthy, and the cavity of the uterus, into which I introduced the end of my finger, was perfectly so. I could not detect inflammation, enlargement, or any other morbid change. The exposed membrane had secreted abundantly, for the chemise was completely saturated and stiffened with an almost colourless discharge. My inquiries failed to elicit any circumstances from which the cause and mode of production of this unusual change could be explained. When the patient had gone to bed, I covered the protrusion with a soft cloth, and pressed it upwards with the hand. It was necessary to exert considerable force, under which it suddenly receded, the urine being forced out at the same moment. I introduced my fingers into the vagina, to ascertain that the uterus was restored to its natural state, and that the os tincæ was in its right place. A portion of sponge dipped in a solution of alum was then introduced into the vagina and kept there, the patient being confined to bed. She menstruated at the return of the regular period. She was kept in bed, and used the sponge for three weeks. She was then allowed to get up, still continuing to introduce the sponge. She was discharged quite well on July 25th. I saw her in the latter part of August, when she had again menstruated, and had experienced no return of the protrusion.

Irreducible Scrotal Hernia.

Isaac Hoare, a porter, 43 years of age, has had a scrotal rupture for 14 or 15 years. It was kept up for 12 years by a truss, which he left off six months ago, since which time he has been unable to return the protruded parts. On Feb. 26th, 1838, he felt unwell, and was sick; the bowels being confined, he took some opening medicine, which operated slightly. He came to the hospital on the 27th, complaining of costiveness and sickness, and he vomited after his arrival. The house-surgeon bled him from the arm to thirty ounces, and directed a warm bath. When I saw him in the middle of the day, after the adoption of these measures, the tumor, as large as my fist, was undiminished, but soft, and hardly painful. The abdomen was natural, the pulse quiet; but sickness continued.

Extract Coloc. co. gr. xij. with Hydrarg. Submur. gr. iij. in pills, immediately; Magnes. Sulph. 3ij. in equal parts of water and Aq. Menthæ, three hours after the pills, and to be repeated every three hours. A common injection with six ounces of senna mixture to be thrown up after two doses of the mixture have been taken, if the bowels should not have been previously relieved.

The injection was administered in the evening, and followed by copious motions; after which the sickness did not recur.

28th.—No material change in the swelling; it was considered a little smaller.

Ice to be applied to the swelling in a bladder.

29th.—The testicle is swelled, and painful, probably from pressure, in attempting to return the swelling, which descends quite to the bottom of the scrotum.

The ice to be discontinued; twelve leeches to the swelling, and afterwards cold lotion.

March 10th.—The cold lotion has been continued, and the patient has remained in bed: he has taken the solution of magnes. sulph. three or four times a day, and is less reduced than might have been expected, though he complains of weakness and hunger. The principal part of the swelling has returned; but a hard mass, two inches in length, and twice as large as the thumb, remains. This, which is obviously a piece of consolidated and hardened omentum, appears quite loose in the sac; it can be pushed up to the ring, but not through it, even under the employment of considerable force.

To continue in bed, and use cold lotion; to keep the bowels freely open. Meat diet.

In about ten days, as the house-surgeon was examining the part, the lump passed up into the abdomen, under slight pressure. A truss was applied, and the patient was allowed to leave his bed. There was no renewal of protrusion, and he left the hospital in perfect health on March 30th.

In this case, which was obviously an epiplocele, the symptoms were those of incarceration rather than strangulation, and yielded readily to the means usually found efficacious under such circumstances. The patient remained with a large mass of omentum in the scrotum, which had been irreducible for the preceding six months; the indurated mass, which constituted a portion of the protrusion, forming an apparently serious obstacle to replacement. It was very desirable that the parts should be returned, in order to save the patient from a repetition of the inconvenience and danger which he had just passed through. This was accomplished by confinement to bed for three weeks, with cold applications and free purging. In an analogous case of a young man, with an omental scrotal rupture, under my care in the hospital, two or three years ago, the same plan of treatment was equally successful. He was admitted with symptoms of strangulation, which were removed by venesection and aperients, the tumor not being altered. Some part of the protrusion passed up in a few days, but a hardness remained, which, as the patient said, had never been returned. It passed into the abdomen easily after a fortnight's confinement to bed.

Inflammation of the Hand and Fore-arm, from Injuries of the Hand or Fingers.

Ann Portbury, a housemaid, 15 years of age, came into the hospital on May 23d, 1838. A week previously she had pricked her hand with a needle, over the palmar surface of the metatarsal bone supporting the fore-finger. The needle did not enter deeply, and she considered it an affair of no consequence, pursuing her usual occupations. She felt pain in the part the day after the accident, and some swelling took place; it became worse and worse daily, till she came to the hospital. The hand was now acutely inflamed, and swelled to four times its natural thickness. The palm, of which the cuticle was thickened by her laborious avocations, was literally as hard as a board. I could not, on the most careful examination, detect evidence of suppuration, nor find such ground of suspicion respecting the probable presence of matter at any point as would have justified a puncture. Severe pain has entirely prevented sleep for the last two or three nights.

Venesection from a vein of the affected arm; a dose of calomel and jalap; linseed poultice.

Twenty-six ounces of blood were drawn, and slight faintness was felt for a few minutes. The blood was as strongly buffed and cupped as in the case of acute pleurisy; it presented a complete *crusta pleuritica*.

24th.—The patient slept tolerably well last night. I found to-day a soft place between the thumb and fore-finger, with fluctuation. It was punctured, and two tablespoonfuls of thick matter were let out, which had formed under the palmar fascia.

27th.—The hand has returned to its natural size, and is quite free from pain.

June 3d.—The opening is closed, and the patient is discharged; there being a very slight stiffness, which would disappear in a few days.

Richard Tarron, 46 years of age, a robust man, and a labourer on rail-roads, came into the hospital June 22, 1838, having had the last phalanx of his middle finger crushed by a heavy mass of iron a week before. The wound was suppurating; the finger generally and the hand were inflamed and considerably swollen; and the fore-arm was red and swelled on its palmar aspect half way to the elbow. He was bled from the affected arm to between ℥xx. and ℥xxx.; the blood being buffed and cupped.

A dose of calomel and jalap, followed by a saline draught with ℥j. of Liq. Antim. Tart. every six hours. Poultice to the finger. Cold lotion to the fore-arm. Twenty-four leeches to the hand and

fore-arm in the evening. 23d.—Thirty-six leeches.

These measures arrested the progress of the mischief, so that the inflammation of the fore-arm was quite removed, and the general affection of the hand was abated. But the finger continued inflamed and swollen, and mischief spread along the extensor tendon and the theca of the flexor to the palm and back of the hand. It was necessary to use leeches again on July 11th and 13th. Suppuration occurred in the palm and at the back of the hand, at the roots of the injured fingers, and it was necessary to make an opening in each situation. He left the hospital on August 6, with the original wound and the punctures soundly healed. The finger was stiff, but not immoveable: the motion of the other fingers was recovering rapidly.

Another case has occurred lately in the hospital, where general inflammation of the hand and fore-arm had supervened on a slight but neglected injury of a finger. On his admission the patient laboured under considerable inflammatory enlargement of the hand and fore-arm, with red lines running along the arm to the axilla. There was severe pain, with total want of rest. Suppuration took place here among the flexor tendons at the lower and anterior part of the fore-arm. I evacuated the matter by a deep puncture, bled the patient largely from the affected arm, confined him to bed, and followed the antiphlogistic plan in other respects. He was so much improved in a week, that he left the hospital contrary to my advice. In a few days he returned, with a severe relapse of inflammation in the hand and fore-arm, both of which were red, swelled, and almost as hard as a board. They were perfectly stiff, so that he could not move either the wrist or fingers. I told him that he must come into the hospital again, that a much longer treatment would be requisite, and that in all probability recovery would only be partial. Although he assented apparently to my proposal, he did not return.

Numerous cases are seen in this hospital of serious inflammation affecting the hand and fore-arm from slight neglected injuries of the fingers or hand. Suppuration in the palm or at the back of the hand, in the theca of the flexor tendons, among these tendons in the palm, under the annular ligament, and in the neighbouring part of the fore-arm, mortification of the flexor tendons in their sheath are common results of such inflammatory disorders. Hence a finger is sometimes left stiff and extended, from the loss of the flexor tendons; sometimes the fingers generally are contracted and motionless. High inflammation, even without suppuration, often causes condensation of the loose and soft cellular tissue around the flexor and extensor tendons, by which they become agglutinated to each other and to the surrounding parts, with more or less considerable permanent stiffness. When the original injury has been neglected and inflammation is coming on, active antiphlogistic treatment is required to prevent these serious consequences, or to lessen their amount; and we cannot attain the object without employing the same kind of efficacious measures that might be resorted to if an important internal organ were inflamed. Free venesection from the affected limb is the principal measure; after this blood must be taken from the part by means of numerous leeches; general antiphlogistic treatment and rest in bed being combined with these measures.

OBSERVATIONS ON THE ACTION OF SOUND IN THE STETHOSCOPE AND IN THE EXTERNAL EAR.

To the Editor of the Medical Gazette.

Sir,

I can scarcely presume to think that every thing novel in the subjoined brief essay on sound is correct; but if it contain a limited measure of truth, this may lead to a more accurate survey of the subject by some of your many able contributors, should you do me the favour to give it a place in your valuable journal.

I am, sir,
Your very obedient servant,
William Shand.

Aberdeen, 23d November, 1838.

I have been induced to commit to paper the following observations, not from any desire to animadvert on the sentiments of the learned gentlemen who, in the Medical Gazette for 1837-8, differ in opinion as to whether sounds produced in the chest be conducted from the parietes of the chest to the ear by the atmosphere in the stethoscope, or by the fibre of the wood of which it is composed, but to elicit truth and stimulate investigation.

This apparently simple point is not only important in relation to disease in the human body, but in regard to the

action of the sound generally; it is therefore necessary to establish certain practical facts, in order to arrive at general conclusions and truth in this matter.

Sound is usually produced in bodies more dense than the atmosphere, by sudden percussion, and the action of one body upon another; and it is considered to be the result of different modifications of matter only.

Rapid agitation, causing the atoms or crystals of a solid, by their extremities, to act upon each other, creates sound, *whether this action be occasioned by original impulse or by reflection.* It is regulated by the principles of attraction and repulsion; and it cannot be produced, conducted, or reflected, in any case without vibratory action.

As the atoms or crystals of solids vibrate repeatedly, and ultimately return to their primitive positions, they produce more intense and continuous sound than fluids, the component parts of which pass each other, and do not return to their original positions.

In conformity to the density of the atoms, their form, and the medium distance between them, is the intensity, duration, and velocity of sound.

As all sonorous bodies, whilst they conduct, or reflect, also create sound, it is obvious that to preserve the *original character* of sounds, the reflecting or conducting body must in its movements accord in time with those of the body which produces or forms original sound.

As vibration is necessary to produce, conduct, or reflect, every still body must arrest sound, on the same principle that a body at rest, being in contact with a wheel moving round its axis, impedes its progress.

Slow pressure compresses a few atoms only, but rapid percussion occasions action, re-action, and sound, throughout hard bodies.

A solid, to produce much sound, must be of limited diameter in one direction, for it vibrates most in this direction, because the atmosphere yields more than the solid.

In every sonorous body there are two different actions—the tremulous or vibratory action, *which mainly creates sound;* and the undulating motion, which consists of a certain number of atoms moving together.

The undulation, by separating the action of the atoms, also determines the duration of each distinct sound in a body, and in the organ of hearing. In a string, the nodal point which separates the waves is easily defined; but in an expanded thin body the termination of the wave varies according to the form of the body, and is not easily perceptible; and it is frequently irregular in action and sound, so as to produce confusion in the ear.

For the reasons given, if a rod be struck on the end, or a thin expanded body on the edge, little sound is produced.

The chief distinction between hard solids and fibrous substances is, that the latter possess more of the adhesive, and less of the repulsive, principle; they require to be more distended in a longitudinal and superficial direction; and intensity of sound is more by the extent of their excursions than molecular action.

Fluids are more powerful conductors than productors of sound, but conduct less rapidly than solids. Their atoms or component pass each other, and do not return to their original places, as do those of solids: this accounts for sound passing in all directions in the atmosphere, but most in the direction in which most impulse is given; *also, why the same degree of percussion produces more sound in hard solids than in the atmosphere;* and why, in transit, there is less change in its original character.

It is much influenced by moisture in the atmosphere. Intensity and distance of transit appear to be regulated more by the adjustment of particles than the proportion of moisture. For instance, it is loud and passes farthest during frost, and at all times when objects are seen to a great distance. This is peculiarly perceptible within the tropics, and in this country in summer, just as the sun sinks under the horizon; but when cold increases, and the particles of moisture become larger, these effects are diminished.

It follows, as matter of course, that its transit must be more or less rapid under such varying circumstances.

Water conducts more powerfully than the surrounding atmosphere, and, so far as I have been enabled to ascertain, with increased effect as it approaches the temperature of the human body.

This is exemplified in tropical rivers, and in the human ear, where this fluid is the only body in contact with the

acoustic nerve, to which it must communicate sound consistently with its original character.

The several points to which I have already adverted sufficiently demonstrate why the stethoscope should be hollow in the centre, and of limited thickness in its parts; and why any material pressure on any part of this instrument, so as to compress or alter the natural arrangements in the atoms of the wood, must deteriorate its conducting powers. Were this instrument to press much on the parietes of the chest, the atoms of the softer body must be compressed, and they would sink into the interstices of the harder, and vibration and sound would be checked at the points of contact.

On the other hand, if they be not in contact, a slight separation will produce the same effect in this case, as a crack in a bell, or any other sonorous body; because the air yielding in all directions to the hard bodies, also carries off sound in like manner.

Similar causes must produce similar effects between the stethoscope and the ear.

I hope to be enabled to point out various circumstances to evince, as advanced by Drs. Budd and Cowan, in the Medical Gazette, that the most dense bodies are not constituted to answer the purposes of the stethoscope, nor in fact in this case to convey sound to the ear consistently with its original character.

To doubt this would be to doubt molecular action, and its effects in sonorous bodies, as partially explained by Dr. Williams, in his fifth lecture in the Medical Gazette.

As in all hard bodies, sound is produced by agitation, and from every atom; so in passing by the atmosphere in any tube, new sounds being created, and the inflexions meeting in its axis, this must alter the character of the sounds which enter the tube, and make them more or less intense.

Thus copper or wood produces new and intense sounds, pasteboard dull sounds; woollen damps yet more; and any soft, yielding, cohesive substance, damps and arrests sounds. If a room be lined with woollen cloth, the atoms in the atmosphere within the room are arrested in their vibrating action on reaching the cloth, and the whole are affected throughout the room in succession.

Sound is damped in a hard body, on the same principles, when a soft non-elastic substance presses on any part of it; and the influence is more rapid than in the atmosphere, as the atoms are more compact, and do not yield to the same extent.

The sonorous powers of fir do not arise from the lightness of the fibre allowing freedom of excursion, as remarked by Dr. Williams. As well might it be said, that a cork suspended from a sling would vibrate in the atmosphere as decidedly as a leaden ball, or that a ponderous string produces less determined vibrations than a light string.

It is the compactness and tension of the fibre, and the loose and open nature of the material between the fibres, which give it effect and direction.

In a state of vegetation the sap is circulated between the fibrous parts; but when the wood is dry it is replaced by air in the cellular interstices, and the tissue between them becomes loose and open.

The cohesive and repulsive power of the fibre may be known by the great weight that this wood is capable of sustaining by longitudinal suspension, and what it will bear on the end without being materially compressed; whilst the loose texture between the fibres is proved by the ease with which it is compressed or drawn asunder in the reverse direction.

Here we have a concatenation of strings of considerable tension, sufficiently apart from each other to allow them to vibrate, but without so much freedom as to permit them to go beyond a certain distance, and prolong individual action and sound so much as the single string.

The undulations by this means produced in the direction of the fibre, are calculated to conduct and give out distinctly defined sounds, in accordance with the vibratory impressions made on the end of the wood in the stethoscope.

After having, as minutely as circumstances enabled me, investigated the action of sound in every situation and way that occurred to me, as a test of the accuracy or inaccuracy of the conclusions to which my observations had brought me, I determined to analyse the organs of speech and hearing. In this my chief object was to ascertain whether there were any bodies in the ear

to produce prolonged sounds; because, if there were not, neither could such be thrown upon it consistently with speech. I could not, however, reconcile the deductions resulting from my former investigations, with the physical arrangements in the ear, and the popular theory as to the operations of sound in it. What first attracted my notice was the superior surface of the pinna, which varies more in form in different individuals than any part of the human frame; and considering the principles which are supposed to govern sound, it seemed evident that the effects produced by these different arrangements must also be very different; nor could I discover any thing in nature, resembling the pinna, which collected and determined sound to a given point.

Many able physiologists and anatomists admit, that, in certain cases, a portion of sound is conveyed to the internal ear through the solids; but I believe the universally prevalent opinion is, that predominant sounds enter by the aerial passage.

The component parts of the pinna on which sound impinges, except its extremities, are fibro-cartilaginous, the fibrous laminæ passing longitudinally into the ear, and the gristle is more brittle as it approaches the temporal bone. In fact its properties are analogous to those of the organs by which sound is produced in the human body, and it is found that all materials of similar tension and of brittle character, whether live or dead matter, are powerful conductors of sound; nor can it reach these without being diffused throughout, if not arrested, by some non-resonant substance, which is not the case in this instance.

I would here remark, that if faint sound produced in the chest, be conveyed by media little sonorous to the walls of the chest, and thence to the acoustic nerve, by what analogical reasoning is it concluded, that exceedingly more powerful impressions being made on any part of the external ear, shall not be conducted by its solids to this nerve?

The construction of the pinna is that of an expanded lever, of which the cartilage around the meatus externus is the fulcrum, and a brittle elastic fulcrum.

The elevations of the helix and anti-helix, are so formed as to oppose and give force to the waves of sound, which have their proper influence from in front, so as to agitate the pinna. The direction of proper sounds is proved by the fact, that the face is always turned towards the source of sound, and the additional fact, that all intense sounds from behind bring confusion to the sense. It is then remarkable, that the tragus is placed in front, over the orifice in the external ear, so as to prevent the wave from in front directly entering this canal, and to throw it upon the helix or anti-helix, according to the degree of elevation in either, and by which it must necessarily experience new impulse and direction in an acute angle, to convey it to the auditory passage.

This canal, and the anterior surface of the membrana tympani, are lined with cerumen—a peculiarly soft, yielding, and adhesive body, which is calculated to arrest vibration, and its properties are converse to those of the saliva with which the mechanism of speech is lubricated, and without which we cannot articulate.

These are not the only impediments in the way of direct and intelligent sounds entering the ear by the aerial passage, but they do not prevent the atmospheric wave from acting on the membrane of the tympanum, and by means of the chain of bones in the central ear, agitating the mechanism of the labyrinth, and producing undulations in the fluid contained in it.

Whether sound in the stethoscope and in the human ear be conducted by the aerial passages, or by the solids, may be determined by solution of the following abstract principles:—

Do not hard bodies of limited thickness but extensive superficial surfaces, by the action and reaction of their atoms, produce intense and prolonged sounds, in the ratio of their hardness?

Are not sounds produced in such hard bodies *in every case* of rapid agitation, and given out on their superficial surfaces?

Do not the component parts of the atmosphere yield and pass each other, and are sounds of which the ear is sensible produced in these, without their coming in contact with other dense bodies, the atoms of which do not yield in like manner, or pass each other? If then the stethescope, the interior surfaces of which are sonorous, conducts by the fibre of the wood more than by

its surface, and hard bodies in general are more powerful productors and conductors of sound than the atmosphere, why is it concluded that the solids of the ear do not convey more sound to the auditory nerve than the meatus auditorius, which is lined by a cohesive material, such as nature in no other situation employs as a conductor?

ON GALVANISM,

IN REFERENCE TO ITS THERAPEUTIC EFFECTS ON THE HUMAN SUBJECT.

To the Editor of the Medical Gazette.

Sir,

I shall not recapitulate the numerous writers who have devoted their attention to the effects of galvanism, but take a retrospective view of the practical results of the chief experiments which have been performed. Many of these have been tried under an idea that the muscular system might be acted upon independently of the nerves. Vasali, Julis, and Rossi, made a great number of trials on decapitated individuals at Turin. Volta and Aldini asserted that the muscular system without the nerves could not be affected, while Fowler has made a contrary statement. In consequence of this uncertainty, many of the present day have failed to produce any beneficial results from the application of galvanism. Ritter has made some remarks on the different effects of the positive and negative wires, stating that the positive pole augments the functions of life, while the negative diminishes them, a statement, I think, not borne out by practice; and my belief is, that the notion of assigning a sedative quality to the direct effect of electricity is not correct; not but that a sedative effect may be the ulterior result of an over-stimulant action on the system. As regards the effects of galvanism on the functions of secretion, Dr. W. Philip has made very satisfactory experiments, so as to set at rest that part of the question, by proving an analogous effect between galvanism and the nerves of organic life. In the British and Foreign Quarterly Review for October last are some interesting microscopic experiments, by Dr. Purkinje and Pappenheim, of Breslaw. They have demonstrated a set of mucous glands, which give out the active principle of digestion or the gastric juice, and also that these glands give out sufficient chloride of sodium, for the digestion of coagulated albumen. They have proved that if the nervous action in the stomach is either identical with or analogous to galvanism, it would be sufficient to account for the secretion of the quantity of muriatic acid requisite for digestion, without the assumption of a special organ of secretion. Dr. W. Philip has related some excellent cases of dyspepsia, where he fully shews the great advantage of galvanism. He states its application to be to assist the nerves of organic life, and not the nerves of volition. In his work on Indigestion, he has published a letter from Mr. Earle, giving a history of some trials of galvanism, which were satisfactory in three cases at St. Bartholomew's Hospital. Breschet has also added to the stock of information in this department*. Thus far has the science of galvanism been applied as a therapeutic agent, with the exception of two cases, published by myself in the 20th volume of the Medical Gazette, page 70; one a case of partial paralysis of the arm, the other a case of tic douloureux, with some comments which assist in supporting the following remarks. These several deductions appear to me to be the result of my experience:—

1st. Galvanism is identical with the vital action of the nerves of organic life, and the nerves of volition.

2dly. The action of galvanism is determined by the healthy condition of the brain and spinal marrow.

3dly. The skin must possess a normal sensation, as well as temperature, before the galvanic action can affect the muscular fibre.

4thly. The positive plate or wire should be applied over the region of the origin, and the negative to the region of the termination of the nerve.

5thly. The galvanic influence, when passed along the spine, will be most active in the paralysed limb.

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* In the fifth number of Guy's Hospital Reports, Dr. Addison relates seven cases of chorea, where a well-directed attention to electricity proved of great service. Dr. A. confesses that he formerly attached as little value to electricity as a remedial agent, as is ascribed to it by the profession in general, being "led greatly to underrate its efficacy in consequence of its vague and indiscriminate recommendation, or from the inefficient and careless manner in which it had been applied."

6thly. Galvanism is assisted by the alkalies and the mercurial action.

7thly. Galvanism restores diminished temperature, decreased circulation, and lost muscular action, in the following order:—Temperature first; circulation second; and muscular action last.

8thly. Galvanism has no effect in disease that alters the structure of nerves.

9thly. It supersedes manual friction.

10thly. It is assisted by the affected limb being immersed in a warm bath, into which the negative plate or wire should be put. In passing a current from the head through one half of the body, the foot should be immersed in warm water.

11thly. It is injurious when much pain is caused in the muscles by its application.

12thly. It may be carried to an undue extent, so as to produce congestion of the brain.

The following cases are related in support of the above remarks:—

Wm. Borkitt, aged 47 years, of middle stature, by trade a shoemaker, applied to me in May 1838, in consequence of a painful affection of the left arm and hand. The extensor muscles of the forearm were nearly paralyzed; the animal heat reduced so that he could not keep the arm warm; the pulse slower in the affected arm than the other. He stated, that during the last twelve months he felt occasional pains, which gradually increased in the outer part of the shoulder, extending down the radial side of the arm to the tips of the fore, middle, and half of the ring fingers. The pain was generally followed by a cold sensation, succeeded by a burning heat and total inability to retain any substance between the finger and thumb. The median nerve, in this case, appeared to be the one principally affected. I ordered him, for the space of fourteen days, to immerse the limb in a mustard bath twice a-day, and to use friction to the arm, with hog's-lard; to take magnesiæ sulphatis, 3ij. in a wine-glass of chamomile tea every morning. Still the pain, with loss of power, continued. I then ordered to be used a stimulant embrocation of liq. ammoniæ and linimentum saponis, which brought out an eruption of small boils over the whole limb; yet the pain and inability remained. I then gave him the pilulæ hydrargyri, so as to produce ptyalism, which greatly improved his health, notwithstanding which the inability to use the hand and arm remained the same; but the pain somewhat subsided, and became not so frequent or severe. I now began to apply galvanism, by means of a battery of 24 cups, containing the segment of a circle of plates of copper and zinc, four inches square, immersed in diluted muriatic acid, which being continued daily, from the shoulder to the hand, for three weeks, the pain entirely subsided, the skin regained its normal temperature, and the hand its power. At this stage of the case I deemed it more advisable that my patient should go to agricultural labour before he resumed his occupation as a shoemaker, which he did for the space of two months: by so doing he improved his general strength, and, with the exception of a benumbed feeling at the tip of the middle finger, the use of the hand and arm is quite restored.

Mrs. Ballard, 36 years of age, applied to me May 22d, 1837. I found her suffering from a partial staphylomatous appearance of the eyes, an inflamed conjunctiva, and an extreme sensibility on the admission of light; the upper lids in constant action, with immobility of the iris. On the admission of light it caused pain in the head, over the upper and back part of each parietal bone. The mind much depressed; general debility; the tongue white, with numerous papillæ on its surface; bowels torpid; the evacuations deficient in bile; the urine very irregular as to quantity and quality; the skin dry. On my first inspection of this case, I considered the pain in the head and the mental depression to arise in part from hepatic derangement. I ordered her pil. hydr. gr. ij. and acid. nitrici, gtt. iij. in barley-water, three times a-day; conjoined a milk diet night and morning, with beef-tea or mutton-broth for dinner. This plan had the desired effect of removing the cerebral symptoms, and correcting the functions of the liver and intestines: nevertheless the involuntary action of the upper lids continued, and the extreme sensibility on the admission of light, with almost a completely paralytic state of the iris. I now ordered a tepid shower-bath to be used every morning; to take a more solid diet of animal food without stimulants; to walk, gradually increasing the distance so as not to produce fatigue. I also passed galvanic shocks, from

eighteen cups and three inches square plates, through the upper and back part of the head to the exit of the superior and inferior orbitar nerves, and through the temporal bones. At the end of five weeks after using the galvanism, I had the satisfaction to see a steady improvement. The eyelids became regular in their action, and the iris obedient to the ingress of light, and the system generally improved; so that she was enabled to resume her duties as a confidential servant in a highly-respectable family. Previous to the application of galvanism, there was a great diminution of temperature as well as sensation over the whole skin. This case had been submitted to medical treatment in London, for seven months previous to my attendance; and I feel fully persuaded that, without the aid of galvanism, the other measures would have only afforded partial relief. She has remained well up to the date of this paper.

Mrs. Doust, aged 29 years, applied to me March 3, 1835. She had been attacked with paralysis of the left side of the head, face, left arm, and leg. She was the mother of six children, was of plethoric habit, and had had three abortions at the sixth month of gestation. With the use of depletory measures and the mercurial action her health became much restored, with partial use of the hand and leg.

In June 1837, while at work as a penciller in a printing manufactory, she had a most painful spasmodic action of the left arm, which was relieved by a repetition of small doses of ant. tart. and sulphas magnesiæ, and leading a more active life. After a time the arm became less useful, so that she could not raise it from her side.

August 1837, I applied the galvanic influence to the arm, but with little or no benefit, as the brain soon became congested, and it was found futile to continue its use.

May 1838, she had another attack of paralysis, with menorrhagia, which I treated with venesection, and assafœtida with neutral salts. The health being restored, I determined on again persevering with the galvanic agency, in conjunction with the use of mercury. Consequently I commenced passing shocks of galvanism from the nape and side of the neck to the arm, with a battery of twelve cups, containing plates the segment of a circle, six inches by three, immersed in diluted muriatic acid. This method of passing the shocks was attended with great irregularity as to its effect. I then had the foot put into a hot bath, into which I placed the negative plate. (I should have observed, I use two plates, three inches square, which are applied to the surface of the skin, and communicate with the wires from the cups.) The shocks passed more freely down the leg, but were not felt in the arm. Removing the positive plate to the spine, opposite the lumbar vertebræ, I kept the negative plate in the foot-bath. By this application the galvanic action became most powerful in the left arm and hand to the tips of the fingers, producing very violent extension of the arm. At the end of fourteen days I suspended the use of the mercury, and gave her one drachm of the carbonate of iron three times a day, continuing the daily application of the galvanism, by which means she recovered the full use of the leg and arm, but not the fingers, although she could manage to tie a knot.

In this case the cerebral congestion increased according to the increased action of the galvanic agent. It also shews a very singular action of galvanism. I have ventured to attribute this strange effect to the agent passing to the origin of the cervical nerves through the grand sympathetic nerve, as an unusual heat was felt in the stomach and bowels. Certain it is, she only regained the action of the muscles of the arm and hand as the galvanism was passed through the lower portion of the spine to the foot.

May 9, 1838.—Mr. B. H. Goldie, a clerk in the ordnance department, sought my advice in consequence of paralysis affecting the whole of the left side of the body (hemiplegia.) He is a man of full stature, fair complexion, temperament melancholic; he also suffered from an unreduced dislocation of the right os femoris on the dorsum of the ilium, so that he was quite helpless. He stated that about fourteen years ago he slipped off the steps of a friend's house, and ruptured the tendo Achillis of the left leg. In consequence of the passive treatment then enjoined, a gradual loss of voluntary power over the muscles of the left arm and leg succeeded, extending upwards to the half of the head, with diminished circulation, and constant sense

of coldness, not only in the extremities of the left side, but in the side of the chest and body. The left upper eyelid fell so as nearly to obliterate vision. His habits of life were sedentary, and very abstemious both in eating and drinking. The bowels were sluggish, indicative of torpor of the liver; urine generally high coloured, and lessened in quantity. The pulse on the right radial artery 86 in the minute; on the left radial artery 74 in the minute. In this case I, from the onset, had an ulterior view to the application of galvanism, but not until the secretions were corrected. I ordered him to abstain from animal food, and have recourse to a bread and milk diet, and to take—

Pil. Hydr. gr. v.; Pil. Rhei C. gr. v. every night; with a draught in the morning composed of Vin. Colchici, ʒss.; Liq. Ammoniæ Acetatis, ʒss.; Sol. Magnesiæ Sulphatis, ʒj.

May 16th.—I took eight ounces of blood from the arm, which very much relieved the brain; continued the medicine with the use of the warm bath, at 105° Fah., twice a week until the first of July, occasionally suspending the aperients, according to the action of the bowels, so as not to produce mucous evacuations. I now recommended him to take a wine glass of Griffith's mixture twice a day, and use the flesh-brush to his limbs. The mental depression subsided, and the secretions became healthy, with a more equal state of the temperature and circulation.

July 16th.—I commenced the daily application of galvanism (with a battery of forty-eight pair of plates, three inches square, arranged after the *couronne de tassa* of the French, the plates being circular), passing the shocks from the head, neck, and spine, down to the foot, which was immersed in a hot bath, into which I put the negative plate. During the first week my patient experienced only a gentle warmth, which greatly increased up to the tenth day. The pulse then rose. On the thirteenth day the muscles began to act rapidly and very powerfully, so that on the twenty-first day he lifted the leg and foot out of the bath without aid, and grasped very firmly with the left hand. The galvanism was continued, with increasing power, until it could hardly be borne by the patient; only lessened in effect when he had slight cold or febrile action, from change of weather, &c. During this process, in consequence of congestion of the brain, I found it necessary a second time to bleed him to the amount of eight ounces.

Aug. 16th.—I discontinued the use of the galvanism, he now being able to walk with a stick and crutch.

Oct. 23d.—He resumed his duties in excellent health, but still with some defect in the muscular power of the left arm and leg. I ought also to observe, that the left leg and foot were œdematous; also the tendo Achillis was much thickened where it had been ruptured: this also was reduced.

JOHN GRANTHAM.

Crayford, Kent, Nov. 21, 1838.

ON THE

DIVISION OF THE PROSTATE IN LITHOTOMY.

BY H. M. PHILLIPPS,
Assistant-Surgeon to the Royal Cornwall Infirmary.

A SENSE of duty induces me to communicate to the profession, through your journal, a fact of some practical importance, which I hope will benefit my fellow-creatures, by diminishing the risk of life usually attending the lateral operation of *lithotomy*. The dangers to be apprehended from which are, hæmorrhage, puncture of the rectum, peritoneal inflammation, with purulent deposition about the neck of the bladder; and infiltration of urine, with its consequences. All these may be avoided, as I consider, by adopting the following *modification* of the operation, which I now strenuously recommend to all operating surgeons.

Having introduced a straight grooved staff into the bladder, and having reached the membranous portion of the urethra by the usual incisions on the left side of the perineum, I cut into the groove of the staff. The staff being still firmly held by an assistant, I introduce the nail of the fore finger of the left hand into the groove, then insert the point of the knife also into the groove in advance of the finger, its flat surface resting on and parallel to the plane of the nail; both are then carried steadily onward until the knife enters the bladder, indicated by the gush of water; it is then withdrawn, and the *finger* alone is pushed firmly and

fairly into the bladder. The forceps is then introduced upon the finger (the best director in all operations), and the stone is embraced.

It will be seen that the principle acted upon here is the same as that which proved so successful in the hands of Cheselden, and was so warmly commended by Sir Astley Cooper; namely, the partial separation of the upper from the lower portion of the prostate gland with the knife, completing the separation to the necessary extent without a cutting instrument. Cheselden used for this purpose the blunt-curved gorget; I use *the finger*. And I do declare, having tried this method on the adult, I have found no difficulty whatever in enlarging the opening sufficiently, by simply protruding the finger into the bladder, which is accompanied with the sensation of a slight tearing.

The advantages of this mode of operating are—the certainty of avoiding hæmorrhage, or of puncturing the rectum, and the equal certainty of being able to make the opening into the bladder large enough to extract the stone, and no larger. I may add, that I never yet found any perineum too deep to prevent my enlarging the section of the prostate with the finger; and I am quite satisfied that any lithotomist who may adopt this method will not readily abandon it.

Truro, November 22, 1838.

FRACTURED CLAVICLE.

To the Editor of the Medical Gazette.

Sir,

The following case of fractured clavicle came under my care soon after reading, in the last volume of the Medical Gazette, the papers upon this subject, signed "Observer," and "F. C. Moseley, M.R.C.S." And as my case, besides possessing an individual interest, may throw additional light upon the dispute between your two correspondents, I shall feel greatly obliged by your giving it a place in your valuable journal.

I am, sir,
Your obedient servant,
Charles Hayes Higgins,
Surgeon.

Taunton, Nov. 26, 1838.

On Thursday, October the 18th, Edwin Hiett, aged six years, was brought to me by his father, having met with a severe fall on the previous evening, whilst swinging on a chain suspended between two posts. He was jerked off the chain and thrown violently against a stone step, the edge of the step coming in contact with the centre of the clavicle.

Having removed his shirt, I perceived the right shoulder to be depressed, and a slight prominence at about the centre of the clavicle. By running my fingers from the sternum along this bone, I found at its centre a distinct crepitus, and a depression of the outer half of it. Having satisfied myself of the existence of a *straight* fracture, and recalling to mind the case related by "Observer," in the number of your journal for May 26th, I desired the little fellow to scratch his head with the hand of the injured side, and to my surprise he did so immediately. At my request he then placed the same hand on his face, and also carried his arm backwards. In fact, the only motion he was incapable of performing with the injured limb, was its extension forwards, as in the act of shaking hands. In answer to my question, he said he felt no pain, unless he allowed the limb to hang down, or attempted to advance it to the front, when he suffered considerably.

Having shewn the case to my medical friends, William Beadon and James Robert Mosse, Esqrs., surgeons, of this town, each of whom separately examined it, and gave their testimony to the fracture, as well as to the anomalous nature of the case, I proceeded to apply Desault's axilla pad and bandages, as modified by Mr. Liston, and at the end of three weeks my little patient was completely cured, having regained all the motions of the limb.

IODIDE OF IRON IN MESENTERIC DISEASE.

To the Editor of the Medical Gazette.

Sir,

Having lately had several cases under my care of diseased mesenteric glands treated with small doses of iodide of iron, at the same time giving sulphate of potass in combination with rhubarb,

I beg leave to lay before the profession, by means of the MEDICAL GAZETTE, the first case in which I tried its effects, and proved its efficacy. If you consider it sufficiently interesting to merit insertion, you will oblige

Your obedient servant,
WILLIAM GARLIKE.

42, Theobald's Road.

On the 23d of July, 1838, I was consulted respecting the health of Mary ——, in the sixth year of her age, who was, by her mother's account, a very healthy child till about four months previously, when her appetite began to fail her; she became peevish and fretful; bowels alternately relaxed and costive; and from which time she has been gradually losing flesh. When I first saw her she was labouring under diarrhœa; fæces tinged with blood; abdomen tumid, and painful upon pressure; skin hot; tongue dry and red; muscles flaccid; great restlessness; starting in sleep; no appetite.

℞ Hyd. c. Creta, P. Rhei aa. gr. iv. sumend. omni mane.

℞ Decoct. Hæmatoxali ℥iv. Cretæ ppt. P. Acaciæ aa. 3ss. Tr. Cinnamomi 3i. M. ft. Mistura. Detur ℥ss. alt. hor.

These medicines were continued, though at longer intervals, till the 28th, when, the urgent symptoms being relieved, they were omitted.

On the 2d of the following month (August) the diarrhœa had returned, and all the other symptoms seemed aggravated. Recourse was again had to the remedies before used, with a like beneficial result.

On the 17th of the same month she had a second relapse, which was again palliated with similar remedies.

I saw nothing more of this patient till the 23d of September, when the diarrhœa was incessant; pulse hardly perceptible; restlessness; could not bear to be moved; eyes sunken, presenting a leaden appearance; lips parched; tongue and gums dry and glazed; breath hot; abdomen painful upon the slightest pressure (even that of the clothes); flaccidity of the whole muscular system; indeed, the mother had given up the patient as lost, and I confess I had no more favourable impression upon my own mind. To continue the same medicines was useless, as they merely produced an alleviation of some of the symptoms, the cause not being removed.

℞ Potass. Sulphatis, Pulv. Rhei aa. gr. iv. omni mane.

℞ Ferri Iodidi, gr. iss.; Syr. Simp. 3ij,; Aquæ, 3x. M. ft. Mistur. cujus cap. 3j. ter die.

27th.—Medicines have been duly administered; bowels are become more regular, but the patient is in other respects no better. The medicines were ordered to be continued, ½ gr. more of the iodine of iron being added to the mixture. About 3j. of the following ointment was also desired to be rubbed over the abdomen, once in the day.

℞ Iodini, gr. j.; Potass. Iodidi, 3ss.; Unguent. Simp. 3iv. M. ft. Unguentum.

Sept. 1st.—Bowels regular; in other respects no better. The ointment having produced irritation, was discontinued. The mixture was continued, but the powders were omitted.

10th.—Bowels still act regularly; abdomen not quite so painful upon pressure; appetite slightly improved.

It would occupy too much time and space unnecessarily to detail the symptoms on each successive visit, suffice it to say that the iodide of iron was regularly administered till about the middle of October last, with decided advantage, and that now my little patient enjoys as good health as before her first attack.

November 28th, 1838.

IMPROVED METHOD OF APPLYING THE TAXIS IN HERNIA.

To the Editor of the Medical Gazette.

SIR,

I SHALL feel obliged by your inserting the following case of strangulated hernia, reduced by Dr. O'Beirne's "improved method of applying the taxis," if you think it worthy of a place in your valuable journal.

I am, sir,
Your obedient servant,
JOHN GRANT WILSON,
Senior Surgeon to the Bristol General Hospital.

Bristol, Nov. 28, 1838.

I was sent for on the 20th instant to see William Child, a sailor, on board a

small vessel trading between Bristol and Zenley. I found him an athletic man, of dark complexion, aged 34, with a very large scrotal hernia on the right side.

For two years he had worn a truss, which had latterly become insufficient to prevent the descent of the hernia under any extra exertion; but he had always been able to replace it, in the recumbent position, until the preceding afternoon, when, on straining at his work, the swelling became considerably larger, and much more painful. He tried to replace it, but could not. Vomiting soon came on, and he passed a night of great suffering. It was ten o'clock A.M. when I saw him. His countenance was anxious; his pulse small and frequent; the tumor was tense, and very tender to the touch; and the skin of the scrotum reddened. He had hiccough, and retched or vomited incessantly; and he had not passed fæces for three days. I could not judge of the nature of what he vomited, as he discharged the contents of the stomach in a bucket of dirty water. I placed him on his back with his knees elevated, and immediately applied the taxis in the usual way, but without avail. I repeated it again and again, using as much force as I thought safe, and as much, indeed, as the painful state of the tumor would admit of, but all in vain. As the symptoms were now urgent, and evidently getting more and more so, I thought of removing him on shore, in order that he might be more conveniently situated for the operation, which I considered it more than probable he would have to undergo: but before doing so, I determined to try the plan of treatment proposed by Dr. O'Beirne, whose very interesting paper, in the Dublin Journal for September last, I had recently read. Accordingly, I procured an elastic tube, such as he recommends, thirteen inches in length; and having straightened it, and oiled its extremity, I introduced it into the rectum. It passed, with little or no obstruction, the whole of its length; but as no flatus escaped, I then attached it to the syringe, and threw up nearly a quart of water, in which two table-spoonfuls of common salt had been dissolved, with an ounce of oil added. This enema quickly returned; but as he was obliged, for want of better convenience, to use the bucket, I was unable to see whether much fæculent matter had passed off. On his again lying down I applied the taxis, but no change was perceptible in the tumor. Feeling assured that I could have passed the tube higher had its length allowed me, I sent for the œsophagus tube of the stomach-pump, and introduced it, with the same ease, more than three-fourths of its length, taking care to pass it very gradually, and upon the least obstruction to attach it to the syringe, when one or two smart strokes of the piston, sending a jet of water through the tube, immediately overcame the difficulty, and allowed it to pass on with ease. When rather more than eighteen inches of the tube had been passed up some flatus began to escape, and on examining the tumor I found it evidently less tense; the man expressed himself in some degree relieved, and the vomiting ceased. I had withdrawn the tube to allow him to pass off the water which had been injected to facilitate its passage; and this time I observed, that nothing but the clear water returned. I then again introduced the tube to the same length, when flatus escaped through it and by the side of it. I then turned the patient on his back, and found the tumor was sensibly diminished, before I began to apply the taxis, and now, with very little difficulty, I was enabled to return the greater portion. About one-third of its bulk resisted my pressure for a few minutes longer, and from its feel seemed to be omentum; but in less than ten minutes from the last introduction of the tube, the whole was reduced, and all the urgent symptoms ceased at once.

The man now requested to be allowed to go to stool, and passed a large quantity of fæculent matter.

I then replaced him in his berth, and applied the truss, and ordered him a five-grain calomel pill immediately, and a dose of castor oil in four hours afterwards.

When I saw him in the evening I found him comparatively comfortable, although he still had some nausea. The pill had operated so briskly that he had not taken the castor oil; I therefore ordered him an opiate, in an aromatic vehicle, to be taken immediately.

The next morning I went on board to see him, and found him out and at work. He told me he slept all night, and awoke quite well, though feeling rather sore. His pulse was below 80,

and the abdomen quite natural to the feel, and not at all tender. In fact, excepting weakness, he had nothing to complain of; and the same evening the vessel put to sea.

This case so closely corresponds with those detailed in the paper already referred to, that I must confess myself now fully convinced of the efficacy of Dr. O'Beirne's plan of treatment in cases of strangulated *intestinal* hernia. It is true that I did not try tobacco enema, and other usual remedies, but my former experience has taught me that they rarely, if ever, succeed when the tumor is so large and tense, the structure apparently so firm, and all the symptoms equally urgent. I certainly believe, that in this instance they would have failed; and although I should have used them, as a matter of course, before resorting to the knife, yet my firm conviction is, that, but for the elastic tube, the operation would have been inevitable. I wish also to state, that my observation in this case perfectly agrees with Dr. O'Beirne's explanation of the *modus operandi* of his remedy. It was not the injection of fluid that produced the benefit; this, no doubt, might have been serviceable in clearing the lower bowels of fæces, and was more especially useful in facilitating the introduction of the instrument; but it was not until the tube had passed up sufficiently high to liberate the flatus, that relief was obtained. The moment the pent-up air found a vent all difficulty in the reduction ceased. I cannot conclude without expressing my opinion that the profession is under great obligations to Dr. O'Beirne for making so important an addition to our list of therapeutical agents in these distressing cases; and I have much pleasure in giving my humble testimony as to its value, and in assisting to award the meed of praise where it is so justly due.

ON THE ACARUS SCABIEI.

To the Editor of the Medical Gazette.

Sir,

The existence of a minute insect infesting the persons of those labouring under scabies, has been alternately admitted and denied; but though many have described its form, some have left unnoticed its habitât, while others have incorrectly described it; to this we must probably refer the uncertainty which has at various times prevailed with regard to its existence. But whatever doubts may have been entertained formerly, they must have been completely removed by the repeated extraction of the insect within the last four years, before crowded assemblies, at the Hôpital St. Louis; not to mention the host of writers who have given an account of it in the medical, and other journals of Paris. So hackneyed has the subject become, and so little disputed, at least in France, that I should not have deemed it necessary to occupy your valuable pages with what I imagined to be so generally known and admitted in this country; but having lately been present at two microscopic *soirées*, where I was expected to contribute my mite to the general fund, I brought with me one of the little insects in question, and then learned that its existence was not such a matter of general belief as I had supposed. Trusting, sir, that you will consider this a sufficient apology for filling up those pages which should be devoted to more original matter, I proceed to give a sketch of the history of the Acarus scabiei.

The first person who makes mention of it, is one Avenzoar, or Abinzoar, a Hispano-Arabian physician, of the twelfth century; and we meet with no further notice of it till the sixteenth century, when it is referred to by Scaliger, Ingrassius, Soubert, Galbricinus, and Aldrovande; but the first and last of these writers appear to be the only two who were well acquainted with it. In 1634, Moufet thus speaks of it: "Animalculum est omnium minutissimum*, solens innasci caseo, et ceræ inveteratis, et cuti item humani. Anglice *mites* in caseo foliis, ligno acido, atque cerâ; sed in homine *wheal worms* dicuntur, et Germanici *seurin*. Ita sub cute habitat, ut actis cuniculis pruritum maximum loco ingeneret, præcipue manibus, vel aliis partibus affectis et igni admotis. Extractus acu et super ungue positus, movet se, si solis etiam calore adjuvetur. Altero ungue pressus haud sine sono crepat, aqueumque virus reddit; nigricat vel nigro parum rubet. Mirum est quomodo tam pusila bestiola nullis quasi pedibus incedens, tam

* Theatrum Insectorum, 1634, Cap. 24, De Syronibus, &c.

longas sub cuticula sulcos peragat. *Hoc obiter est observandum, Syrones istos non in ipsis pustulis sed prope habitare.* Neque Syrones isti sunt de pediculorum genere; nam *illi extra cutem* vivunt, *hi vero non.*"

Although it is obvious, from the preceding quotation, that Moufet has confounded together different species of acarus, yet I think there can be no doubt from the context, that he was well acquainted with the true acarus of the itch; and we must attribute this confusion to the want of good optical instruments at the period at which he wrote. In 1657, Hauptmann*, a German physician, gave an inaccurate figure of the insect; and six years after it was again described by Hafenreffer†; but the most complete account, and the best engraving of it we have hitherto met with, are by Bonomo, in a letter to Redi, part of which was republished by Dr. Mead, in the Philosophical Transactions‡. Notwithstanding the apparent good faith with which Bonomo relates his experiments, and the circumstances which first induced him to perform them, I fully concur in the opinion of Dr. Adams, that the accuracy of Bonomo's assertions must be doubted, as he pretends to have extracted all his acari from the vesicles. It is from this period we date the error of supposing the insects to inhabit the vesicles, an error which has been copied by nearly every writer on this subject to the present time. The first person who classified it was the celebrated Linnæus, under the name of Acarus humanus subcutaneus; but in the second edition of his Fauna Sulcica§ he fell into the error of confounding it with the Acarus farinæ; and attributes the occurrence of scabies in infants to the practice of sprinkling flour on the excoriated parts in intertrigo: hence, says he, "Farinæ et scabiei acaros unam constituere eandemque speciem concludimus." It is remarkable, however, that immediately after the *Acarus siro*, under which name he includes the A. scabiei, the A. farinæ, and the A. casei, he places the true itch insect, the *A. exulcerans;* this can only be explained, as was pointed out by the learned editor of the London Medical Journal, by supposing that Linnæus believed in the existence of two kinds of itch insect, each of which was capable of producing its own species of scabies*, a mistake which probably originated in the erroneous opinion he had adopted with regard to the production of this disease by means of old flour, and which he never afterwards corrected in the subsequent editions of his works. Degeer† was the first who pointed out this error of Linnæus; he gave a faithful description of our insect, as likewise of the cheese and flour mites, with an accurate engraving of the three. He thus defines it:—"Mite arrondie blanche, à courtes pattes ronpâtres, avec un très-long poil aux quatre postérieures, et dont les quatre tarses antérieurs sont en tuyau terminé d'un petit bouton."

Passing over Baker‡, Wichman§, Adams‖, and others who have interested themselves on this subject, I pause at the remarkable work of M. Galès¶. This gentleman, who, in 1812, held the situation of pharmacien at the Hôpital St. Louis, and no doubt was itching for fame, gives the following account of his first experiment:—

"Je plaçai sous le microscope, dans un verre de montre, une petite goutte d'eau distillée, et dans laquelle je m'assurai préalablement qu'il n'y avait aucun animalcule visible; je délayai dans cette eau avec le pointe d'une lancette, le fluide exprimé d'un bouton de gale que je venais d'ouvrir; mais ce fut en vain que je scrutai de l'œil le plus attentif toute l'étendue de la liqueur, pendant plus de dix minutes, je n'y peux découvrir que des ombres informes, et dont aucune ne ressemblait à quelque chose d'animé. Le même petit appareil, préparé dans deux autres verres, ne m'offrit rien de plus. J'allais terminer la séance presque rebuté de mon peu de succès, quand l'idée me vint de remettre sous le microscope, et d'examiner de nouveau

* Ubralten Wolkensteinischen Warmen Bad und Wasser schatze. 8vo. Dresden, 1654.
† Nosodochium cutis affectus, &c. Ulmæ, 1660.
‡ Philosoph. Trans. vol. xxiii. 1702.
§ Fauna Sulcica; edit. alt. 1761.

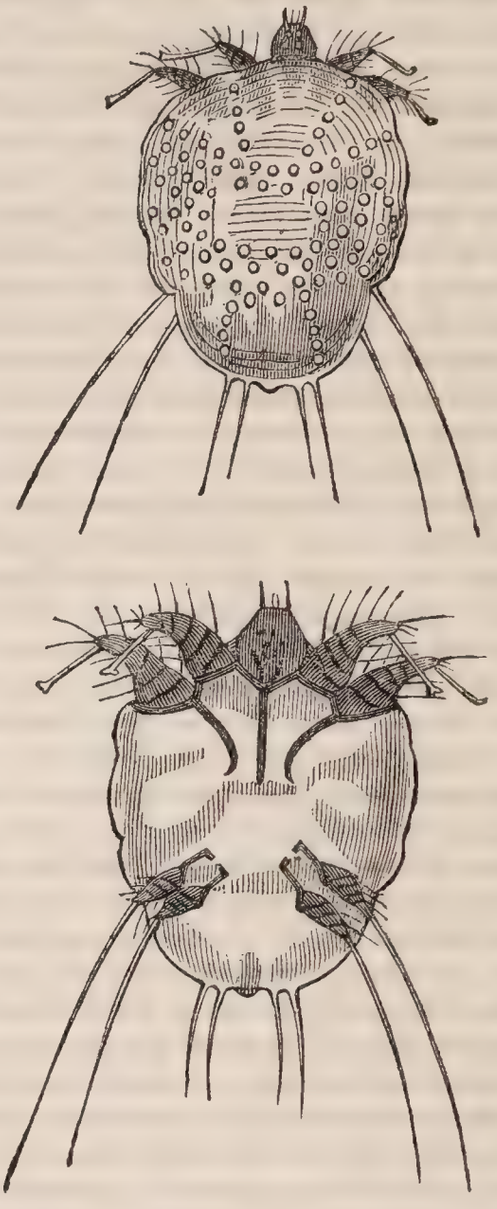
* This opinion is grounded on the following passage from the Exanthemata Viva of Linnæus: — "In scabie farina acari ægrius inveniuntur; exemptos vero, *aliam esse speciem* (A. exulcerans) et pedibus quatuor posticis, corpore duplo longioribus, distinctos." See also his Syst. Natura, 12th edit. p. 1024; and his Fauna Sulcica, before referred to, p. 481-2.
† Mémoires pour servir à l'Histoire des Insectes, vol. vii. p. 94.
‡ Microscope made easy. London, 1743.
§ Ætiologie der Kraetze. Hanover, 1786.
‖ Observations on Morbid Poisons. 1795.
¶ Essai sur le diagnostic de la gale, sur les causes, &c. Paris, 1812.

le fluide contenu dans le premier verre, qui, depuis le moment que je l'avais retiré, était resté exposé à la chaleur du soleil. Je fus agréablement surpris de voir un insecte vivant, qui remuait vivement les pattes, cherchait à se dégager de l'espèce de vase où il était embouché, et qui bientôt, parvenu dans la partie limpide de la liqueur, montra si distinctement toutes ses formes, qu'un des témoins de l'observation, M. Patrix, en dessina sur-le-champ la figure d'une manière très-ressemblante."

Unfortunately for the reputation of M. Galès, his itch insects, of which he affirms to have extracted above three hundred, proved to be nothing else than cheese-mites. His researches, notwithstanding, appear to have created a great sensation at Paris, and, as M. Gras observes, for six years every body believed in the acarus; but the investigations of M. Biett*, in 1818 and 1819, and Mouronval†, in 1820, made on a large number of individuals, and with the best microscope, completely failed in detecting it in a single instance; and henceforth its existence appears to have been treated as a fable. However, the object in dispute, which had occupied so much of the time and thoughts of the savans of Paris, appears to have been familiarly known in the isle of Corsica, where the common people affected with scabies were in the constant habit of extracting it. M. Renucci, a native of that island, who was studying medicine at Paris, first demonstrated it to a crowded audience attending the lectures of M. Alibert, on the 13th of August, 1834. Since that period it has been so frequently extracted, and by so many individuals, that its reality can be no longer a matter of the slightest doubt.

Having thus given an imperfect outline of its history, I beg to present you with the accompanying drawing of the A. scabiei, magnified 180 times. By placing in conjunction with the engraving the following description of it by M. Raspail, the reader will be able to judge of its fidelity :—

" Corps un peu arrondi, comme comprimé sur ces deux faces, et imitant la tortue; blanc, strié, hérissé sur le dos de papilles rigides. Huit pattes, les quatre antérieures placées à côté de la tête et comme palmées; les quatre postérieures distantes. Les quatre pattes antérieures, au moins, sont munies d'ambulacrum."



[Having one already executed, we have used it instead of Mr. H.'s'—Ed. Gaz.]

From the numerous little coniform processes which are scattered over the back of this insect, each of which is said to be surmounted by a fine hair, and from the obliquity of their direction backwards, the reader will perceive the impossibility of the insect pursuing a retrograde course after he has once opened himself a passage beneath the cuticle.

By a reference to the works alluded to in this letter, the reader will observe that their authors differ as to the situation in which the insect in question is to be found; some asserting that it is in the vesicles, while others affirm that it is in furrows in the neighbourhood. I have introduced two rather long quotations from the works of Moufet and Galès, because they may be considered as

* Maladies de la Peau, par Cazenave. Paris, 1828.

† Recherches sur la gale. Paris, 1821.

the representatives of these two opposite opinions. It is now a well-ascertained fact, that in the fluid of the vesicles no acari can be found; to discover them, we should select patients affected with the vesicular form of scabies, and who have undergone no treatment. In some of these there will be observed, in the neighbourhood of the wrist and about the fingers, delicate black lines, varying in length, from an inch to the twelfth part of the same, and pursuing either a straight or tortuous direction. One extremity of these lines is usually less defined than the other, and sometimes terminates in a minute vesicle; they resemble somewhat the scab which is formed on a scratch produced by a fine-pointed instrument, or the black lines frequently observed about the wrists of the lower classes, from the accumulation of dirt in the rugæ of the skin. Hence, to avoid error, it is well to wet the part where these lines are observed, to assure oneself that they do not originate from the cause last specified: having ascertained this, the epidermis at one of the extremities of the line must be gently raised with the point of a pin, and if unsuccessful in discovering the insect, it should be searched for at the other extremity, for *in no other situation can it be found:* there will now probably be perceived at the point of the pin a minute, somewhat globular, *transparent* object, which, on attentive examination, will not unfrequently be observed to move; but even when no movement is perceptible, it can be readily distinguished from a piece of cuticle or other matter, by the *opaque colour* and irregular form of the latter. But, sir, having already exceeded the limits which are usually allotted to subjects like the present, I will, with your permission, reserve what I have to say on the ætiology of scabies for a future number of your journal.

I am, your obedient servant,

C. Holthouse, M.R.C.S.,

Surgeon to the St. Pancras General Infirmary.

INHALATION OF CARBONIC ACID.

To the Editor of the Medical Gazette.

Sir,

Enclosed I send you the *post-mortem* appearances of George Bell. I was most ably assisted by my friends, — Busk, Esq., of the Dreadnought (Seaman's Hospital Ship), and — Sherwin, Esq., of Greenwich. The appearances before death were those of a person labouring under apoplexy, with constant spasms of a tetanic nature: coma and aphonia prevailed from the moment he was taken out of the pit until death, which took place 80 hours after the accident. The blood drawn from the arm was of the colour of preserved damsons. The case and treatment will be laid before the Kent Medico-Chirurgical Society on Monday, the 17th instant. The post-mortem did not take place till after the inquest. It was kindly allowed by the widow and friends of the deceased.

I remain, yours respectfully,

Richard C. Hore.

Blackheath Hill, Dec. 6, 1838.

Account of the appearances noted in the body of George Bell, æt. 38, whose death was occasioned from the inhalation of carbonic oxide, &c.

Inspection 40 hours after death.

1. Body muscular, considerably emaciated, extremely rigid; light purple posteriorly, with large white spaces where pressure had existed; many small, irregular, purple blotches on the anterior surface of the thighs, groins, and abdomen, and a few on the chest and arms; slight greenness in the flanks. Countenance pale; pupils dilated.

2. Scalp thin and bloodless; vessels of dura mater congested, and all the sinuses full of blood; general fulness of the vessels of the pia mater; the basilar artery, and the arteries of the corpus callosum, were full of coagulated blood; arachnoid transparent, slight sub-arachnoid effusion in the depending parts. About one drachm of clear fluid in the lateral ventricles; choroid plexus very pale, containing a few serous vesicles; cerebral substance everywhere of normal appearance and consistence, presenting large, but not numerous, bloody points in the posterior lobes of the hemispheres. About 6 drachms of fluid remained in the base of the cranium after the brain was removed.

3. Both lungs perfectly free; no fluid in the pleura; lungs hardly at all contracted, pale and emphysematous anteriorly, of a light purple colour posteriorly, every where crepitant; tissue not infiltrated, light, and of normal consistence; laryngeal and tracheal mucous

membranes pale and smooth, becoming somewhat vascular about the bifurcation of the bronchi, but it was perfectly smooth and healthy, though purplish, in the minute tubes. The trachea contained a small quantity of light white salivary froth.

Pericardium and heart perfectly healthy, not contracted; some dark grumous coagula filled the right cavities, mixed with a small fibrinous clot; the left ventricle contained a very small quantity of dark clot. The blood contained in the large vessels was coagulated and dark.

4. Anterior half of the tongue was covered with a thick light grey-coloured crust, which was easily detached. Mucous membrane at the base of tongue and in the pharynx slightly vascular; follicles at base of tongue somewhat developed, and the epithelium on the sides of the pharynx slightly detached. Œsophagus healthy. Stomach contracted, containing a considerable quantity of bilious fluid, by which the mucous membrane was deeply stained, the stain being deepest on the rugæ; otherwise the mucous membrane was pale, and of normal thickness and consistence, somewhat mammillated towards the pylorus.

Small intestines were perfectly healthy throughout; no development of Peyerian patches at the end of the ileum.

Large intestines. Mucous membrane of the cæcum of a deep purple colour, as if ecchymosed, but of normal thickness and consistence; elsewhere the membrane was pale, and perfectly healthy. The large intestine contained a large quantity of soft fæcal matter; fluid in the cæcum.

Liver of perfectly healthy appearance and colour.

Gall bladder full.

Kidneys dark coloured from congestion; otherwise perfectly healthy.

Bladder empty, and firmly contracted.

REMARKS

ON WHAT IS USUALLY CALLED THE

SPONTANEOUS AMPUTATION OF THE LIMBS

OF THE FŒTUS IN UTERO.

By John Rose Cormack, M.D. &c.

In all circumstances, and in every situation in which organizable lymph is effused, it is observed, after the lapse of a certain time, to contract, and exhibit a tendency to bring the parts with which it is in contact into closer proximity. The contraction of cicatrices is a familiar illustration of this; and pathological anatomy furnishes us with numerous other examples. When there is effusion within the cavity of the chest, the danger consists not only in the injurious effects upon the viscera produced by the pressure of the fluid, for after this has been removed either by an operation, or by the process of absorption, and the lungs have perhaps regained their natural freedom of play, it may and sometimes does happen, that from there remaining a layer of lymph spread out upon the pleura pulmonalis, a false membrane is formed, which ere long, from its contraction, produces permanent atrophy of the lungs*. If the patient live a sufficient time, the air-tubes and blood-vessels become obliterated, and instead of finding an inclosed lung within the capsule, there is only to be seen a small mass of cellular tissue. When the extent of the inflammation is limited, and the consequent effusion also circumscribed, it is not unusual to find only a lobe, or even a portion of a lobe, diminished in bulk. It sometimes happens that a band of lymph strangulates a portion of lung, by preventing the blood to pass through its vessels. Carswell has given representations of portions of lung atrophied, or even nearly amputated, from this cause.

Constipation is frequently observed to follow chronic peritonitis, and is to be accounted for by the lymyh effused forming bands, which mat together, and compress portions of the intestinal canal. Compression sometimes takes place in this way to an extraordinary extent. It occasionally happens that a false membrane is found extending over the whole peritoneal envelop of the abdominal viscera, causing atrophy of all the contained organs. The stomach and intestines, liver, spleen, and urinary bladder, are often from this cause compactly bound together, and firmly tied to the

* It must be remembered that although mucous membranes, when in a state of integrity, never throw out organizable lymph, serous surfaces exude inorganizable as well as organizable lymph. The former is often seen at post-mortem examinations, and may at once be distinguished by its colour, as well as its glutinous rosy-like appearance. This inorganizable lymph, it has been remarked, sometimes produces by its presence as a foreign body such irritation as sets up a new inflammation. The opinion is entertained by some that tubercle, pus, and inorganizable lymph, are all modifications of the same thing.

spine. They may be variously grouped, or some particular organ or organs may be more compressed and atrophied than the rest*.

The contraction of cicatrices and false membranes might well form the theme of an extended memoir, but my present object is merely to offer a few remarks which the consideration of this subject has suggested, regarding the explanation of the manner in which the fœtal limbs are occasionally amputated in utero. A number of cases of this description have been collected and commented upon by Dr. Montgomery, of Dublin, and Dr. J. Y. Simpson, of Edinburgh, and the essays of these gentlemen are accompanied by drawings of some of the mutilated parts†. In most instances, evidence is afforded of the presence of bands of organizable lymph, yet neither of these gentlemen suggest that the contraction of these bands might contribute to effect the disjunctions alluded to. It appears to me, however, that such an opinion may be entertained; but when this is maintained, it is at the same time admitted that the growth of the fœtus must to a certain extent assist in the disjunctive process, for a band which at first produced no pressure on the encircled limb, would obviously do so as the process of development went on, even supposing that there was no contraction in the band itself. It is therefore suggested, that in this very curious class of cases there are two opposing forces in operation, which, by their opposition to one another, tend to effect an amputation of the part by the same process of disjunctive atrophy which the surgeon accomplishes by means of the ligature.

Though both causes are in operation, the greatest share of the process ought apparently to be ascribed to the contraction of the band of lymph. It cannot be urged that the period of uterine existence is of too brief duration for the organization and subsequent contraction of the effused lymph. The records of fœtal pathology, scanty though they unfortunately still are, furnish us with at least one case, which is of itself sufficient to prevent this objection from being urged. Morgagni, on opening the abdomen of a female fœtus of the full time, found a quantity of blood effused into this cavity, and upon removing this he saw the viscera huddled together, and enveloped in a dense, tough, white membrane. The lungs were of a brown red colour, and sunk in water. There was no putrefaction*. Now this fœtus must have had peritonitis, and the huddling together and atrophy of the abdominal viscera must have been in consequence of the contraction of the false membrane.

Edinburgh, Dec. 1838.

* Dr. Abercrombie mentions several instances in which very slender adhesions were found in fatal cases of ileus; and he supposes that they operated prejudicially, not by producing mechanical obstruction, but by causing "a derangement of the muscular power."

† Dr. Montgomery's papers are in the 1st and 2d, Dr. Simpson's in the 10th volume of the Dublin Medical Journal.

ON THE ABSORPTION OF DEAD BONE.

To the Editor of the Medical Gazette.

Sir,

In the last volume of the Medico-Chirurgical Transactions is a paper by Mr. Gulliver, the object of which is to prove that dead bone is not absorbed. In this paper†, Mr. G. says "the facts which are brought forward in proof of the absorption of dead bone are simple and easily enumerated—to wit, the gradual disappearance of the sequestrum in many cases of alleged necrosis, the irregular and eroded state of the dead portion, the contact of granulations with the indentations on its surface, the absorption of the fangs of transplanted teeth; and, finally, it has been stated, either on the authority of Mr. Abernethy or Sir W. Blizard, that portions of dead bone had diminished in weight after having been kept in contact with the granulations of ulcers." Mr. Gulliver has shewn that the three first-mentioned facts may be explained without having recourse to the hypothesis of the absorption of dead bone; nor does the absorption of the fangs of the teeth prove the truth of this hypothesis, seeing that living teeth only can be absorbed. Any tooth or part of a tooth, if dead, being exposed to the combined influence of the air, heat, and moisture, will decay, whether it be naturally implanted in the alveolar process, or mechanically maintained in the mouth: according to my observations, the process of decay is

* Epist. Anat. Med. LXVII, Oct. 17, as quoted by Gendrin, Histoire Anat. des Inflammations, tom. I. 269. Paris, 1826.

† Page 3, loc. cit.

alike in both cases. The dead tooth, like dead bone, is not absorbed; but, like living bone, the living tooth is absorbed—an example of which may be cited in the disappearance of the fangs of the deciduous teeth. As the assertion that the surfaces of the discs of bone bound over ulcers were found to be eaten out or destroyed, as in common caries, is in direct opposition to the numerous observations of Mr. G., unless the preparations which form the basis of this assertion can be subjected to the minute scrutiny of one versed in this subject, I should not think that pathologists will feel bound to attach much importance to it. It is evident that these discs of bone were subjected to those influences, the presence of which is requisite for the progress of decomposition; and their diminution in weight, to which Mr. G. has above referred, may be accounted for by the effects of the latter process. Mr. Gulliver, in the last page but one of his paper, says, "these experiments are selected from a great number which I have made, all tending to the same conclusion. They have not been sufficiently varied and extensive to admit of being adduced as a peremptory proof of the impossibility of the absorption of bone, in *opposition to the incontestible power of the absorbents in the removal of inorganic particles from the living body;* but I conceive that it is now fully established with how much difficulty dead bone is subject to absorption, and that whatever may be the agency in the removal of the living parts, it can no longer be regarded as the means by which the sequestrum disappears in necrosis." I ask for a single proof "of the incontestable power of the absorbents in the removal of inorganic particles." I do not believe that a single one exists; I have never done so since I read the following passage from Hunter, and carefully examined the grounds he had for coming to the conclusions which he therein draws. "Now the part that is to be absorbed is alive; it must feel its own influence, and admit of absorption; the vessels must have the stimulus of imperfection, as if they were sensible that this part were unfit. There must be a sensation in both parts*."

In the "Table of Absorption†," by the same author, no inorganic substance is mentioned: the teeth being considered as organized; a view which the valuable discovery of Retzius seems more clearly to establish. Mr. Gulliver states that it is generally taught in the schools of London, that dead bone is absorbed. I have shewn that the views of those who make the latter assertion are in opposition to those of John Hunter; the grounds for those views have been enumerated, and it remains for pathologists, who are capable to judge upon this subject, to determine, whether the facts in opposition to these grounds are or are not conclusive. I shall be ready at any time to enter more deeply into this most interesting subject. In conclusion, it is strange that Mr. Gulliver never mentions the name of John Hunter as an experimentalist upon this subject, when the results of Mr. G.'s experiments may be considered as affording a confirmation of those arrived at by that great physiologist. Sir Everard Home*, speaking of Hunter, says, "besides these experiments on the growth of bone, he made others to determine the process of their exfoliation. He cauterized portions of bone in the same way in several different stages of this process, and found that the earthy part of the living bone, in contact with the dead portion, was first absorbed, afterwards the animal mucilage itself, so as to form a groove between the two, which become deeper till the dead bone was entirely detached, the dead portion itself having undergone no change.

PATHOLOGICUS.

* Hunter's Works, by Palmer, vol. i. p. 255.
† Loc. cit. p. 258.

OBSERVATIONS
UPON THE
EDIBLE MUSHROOMS OF RUSSIA.

By GEO. LEFEVRE, M.D. &c. &c. &c.
Late Physician to the British Embassy at St. Petersburgh.

I KNOW not what the march of intellect may have done for mushrooms, but they have hitherto held a very subordinate station in the culinary establishments of the British Isles. If botanists have not been ignorant of the nutritious properties of these fungi, they have not gone hand in hand with political economists in imparting their knowledge to the vulgar; hence a numerous tribe has been quite overlooked, or considered

* Transactions of a Society for Improvement of Medical and Chirurgical Knowledge, vol. ii. p. 277.

as venomous, and one species alone, viz. the champignon, has been separated from a mass of others, which have all been stigmatized by the name of toad-stool.

The child, always eager to lay hands upon what is novel, and prone to taste whatever has the appearance of food, is admonished in its earlier years to forbear touching these profuse productions of nature. Death, made terrible to the being that just begins to live, is threatened as the sure punishment of disobedience. The security of the parent is rendered doubly sure by the choice of nomenclature; for the child, viewing with disgust and terror the poisonous toad, is not inclined to regard with more friendly eye the stool on which it may be disposed to squat. As the infant acquires knowledge by experience, it is taught to separate one species from the mass,—nay some little premium is offered to its industry for collecting that which was formerly forbidden its touch.

How is the child instructed to distinguish the wholesome mushroom from the deadly toad-stool? Does the botanist explain its class and order, its method of reproduction? Does he point out to the little mushroom gatherer the different rugæ under its white, convex, parachutic top? No, this would not in the first instance be appreciated by the pupil; but the mother resorts to her own system, and wisely educates the child as she was herself educated. Trusting to the safety of custom and experience she first shews the infant a mushroom. Smell it, taste it, look at it; all of which the child having done, is sent into the woods to procure other specimens. It naturally errs at first; but a few lessons teach it to distinguish the one real from the many spurious sorts, and a month's practice renders it *au fait* of its profession.

Such was long the state of things in England. Vulgar prejudice had pronounced its anathema against all but one individual of the species, and a numerous tribe of edible fungi was neglected and reviled.

Those who have sojourned long in Russia understand these matters better, and turn their knowledge to a profitable account. Two centuries ago our countryman, Dr. Samuel Collins, directed his attention to this subject; and overcoming the prejudices of previous education, adopted the practice of the natives, feeding himself upon all the varieties of this kind of food served at Russian tables. Whether or not he strove to eradicate the prejudice of his own countrymen upon his return to England is not recorded. It often requires more force than one individual may possess to "push men from their stools."

I have ventured to offer a few suggestions upon this subject, which, perhaps, when dilated upon by abler hands, may be the means of adding another flavour to the *fricassé de poulet*, or to the broth of the cottager.

I am indebted to my friend, Dr. Bongard, who has particularly studied this branch of botany, for the subjoined list of edible fungi; and were it generally known how much these productions are appreciated, and how palatable they are, there is little doubt but they would soon become popular, and find a place in the domestic cookery books of England.

It is not a valid objection (though it may naturally arise), that the properties of these fungi may possibly be changed by the severity of the Russian climate. To this it is immediately answered, that the English, upon their return home, after some years' residence in Russia, gather the same species in their native woods, and, to the utter consternation of Betty, the cook, order them to be served at table. John places the dish, with trembling hand, before his mistress, and watches her with fear and trembling. As no harm arises, however, from the feast, John gets bold, and proposes to Betty to dress for their own supper a collection, which he has himself gathered in the woods; the result of which is, that Betty and John are poisoned; for although the champignon is not the only species which may be eaten with impunity, still there are a great many which are highly deleterious. John had not received a Russian education; he had been taught to reason upon the nature of things in general, and not upon any practical application of specific knowledge. Had he been brought up in Russia, he would not have proved himself so destitute of common attainments as to allow himself to be poisoned by so gross a mistake. Should he even recover, it is doubtful whether he will ever be induced, by a second experiment, to rectify his former error.

Still, this prejudice may be conquered, and it requires only a beginning to put the matter in a right train. Now that knowledge is distributed in so wholesale a shape through the medium of tracts and penny magazines, let it not be asserted that the useful and practical is sacrificed to the doubtful and theoretical. Let it not be reproached to the schoolmaster abroad, that he is penny wise and pound foolish. The Russian boor finds the good in every thing; the English peasant knows not how to profit by the stores which nature has spread before him. The child who learns to distinguish the one innocuous from the multitude of pernicious fungi, will, by very little instruction, be taught to separate others from the unwholesome mass, and its knowledge will soon become a profitable source of amusement and occupation.

Grebbee hunting is a regular trade in Russia, and in the autumnal months children flock to the woods to collect these fungi, and sell them at a very remunerating price.

During the long fasts prescribed by the Greek church, mushrooms form an essential part of the food, and are used to flavour the oatmeal and barley broth, and render it more palatable. They are dried in ovens, drilled through the centre, and threaded like beads, much resembling dried artichoke bottoms; and previous to the fasts, "*Grebbees, haroshi grebbees!*" is one of the cries of St. Petersburgh. The vender promenades the streets with strings of them round his neck, and shelves them off in detail at so much per dozen.

In hopes, therefore, that the junior members of the faculty residing in the country, and who are supposed in the present day to be acquainted with botany, may take up this subject, and rescue this part of nature's bounty from those things which are included in "death in the pot," I have subjoined Dr. Bongard's memoir on the edible mushrooms found in Russia.

1. The variety of mushrooms eaten in Russia is not so great as is generally believed. Several species are eaten in France and Germany, which are scarcely made use of in Russia.

2. Many kinds of mushrooms considered to be venomous in other countries are eaten with impunity in Russia.

I.—Edible Agarici.

1. Agaricus melleus, *Vahl.*

This species has a delicious flavour, and is chiefly used for pies and patties.

2. Agaricus alutaceus, *Fries.*

3. ——— emeticus, *Schaff.*

Both these kinds are eaten in Russia, but the Ag. emeticus is considered to be poisonous in other countries. The whole section *Russula* of Fries, in which are included these two species, are much esteemed. The common name of the country implies that they may be eaten raw. They are most palatable when fried in butter. They vary much as to their colour and taste. They are found of a red, of a rose, of a yellow, of a white, and of a violet tint, and of all intermediate shades. Their taste is sweet, acrid, piquant, sometimes bitter; but they are all served at table.

4. Agaricus adustus, *Persoon.*

This kind is but little prized, and is only eaten by the common people.

5. Agaricus scrobiculatis, *Scopoli.*

6. ——— torminosus, *Schaff.*

This is considered one of the most dangerous kinds in other countries, but it is very generally eaten in Russia.

7. Agaricus necator, *Persoon.*

Like the preceding, considered poisonous every where but in Russia.

8. Agaricus trivialis, *Fries.*

9. ——— acris, *Bolton.*

10. ——— retilis, *Weinman.*

11. ——— deliciosus, *L.*

Very abundant, and much esteemed.

12. Agaricus flexuosus, *Fries.*

Acrid, but eaten by Russians.

13. Agaricus piperatus, *Scop.*

Considered venomous in other countries, but prized in Russia, particularly when preserved in brine.

14. Agaricus vellereus, *Fries.*

Eatable, as the preceding.

From numbers 6 to 14 inclusive belong to the section Galorrhoi, or such as contain a milky juice.

15. Agaricus involutus, *Batsch.*

16. ——— campestris, *L.*

According to this division it is seen that the greater number of Agarici which are eaten in Russia belong to the sections of Galorrhoi and Russula. None belonging to the section Amanita are employed as food.

Agaricus muscarius and vaginatus are considered venomous, and not used as nutriment.

It has been stated by M. Fries that the Agar. muscarius is eaten in Russia (Ru-

thenis edalis.) It is only used to poison flies, as in most countries. In Kamschatka the people prepare an intoxicating drink from this kind; or, if not precisely the same species, at least from one very nearly allied to it.

Agaricus procerus is not eaten in Russia, although it is considered edible in some provinces of France.

Agar. eburneus and prunulus, which are used in other countries, are not eaten in Russia.

17. Cantharellus cibarius, *Fries.*

Generally eaten, but not much esteemed. It has an agreeable odour, but its taste is not equal to its smell.

II.—Edible Boleti.

1. Boletus luteus, *L.*
2. ——— granulatus, *L.*

These two kinds are much esteemed.

3. Boletus bovinus, *L.* (not common.)
4. ——— variegatus, *Sw.*
5. ——— subtomentosus, *L.*
6. ——— calopus, *Fries.*
7. ——— turidus, *Schaff.*
8. ——— edulis, *Bull.*
9. ——— scaber, *Bull.*
   ——— {Var. aurantiacus, *Bongard.*
   {Bolet. aurantiacus, *Bull.*
10. ——— cyanescens, *Fries.*

The genus Boletus is used in Russia much as in other countries; but foreigners are afraid of those which turn of a purple colour when cut or broken; as is the case with bol. turidus and cyanescens. Both these kinds are eaten by Russians with impunity.

Polypori.

There is but one edible kind, and that is rare. It is a variety of polyporus-brumalis, which springs up in the woods after the trees have been burnt; particularly after the first heavy rain. The common name in Russia, implies that they are produced by fire (*pojarki*). It has not a very fine flavour.

Morels.

1. Morchella esculenta, *Persoon.*
2. Morchella patula.
3. Hebrella escluenta, *Persoon.*

This species is considered by some botanists as poisonous. It is nevertheless sold in the markets of Petersburgh and Moscow, and eaten freely.

3. Hebrella lacunosa, *Apzel.*

Truffles

Are found plentifully in the interior of the empire, but are not so much esteemed as those imported from France.

No species of Hydnum or Clavaria is eaten in Russia.

ON THE ACTION OF THE RECTI MUSCLES OF THE ABDOMEN.

To the Editor of the Medical Gazette.

Sir,

I have lately been considering the action of the recti abdominis muscles, and the uses of their tendinous intersections. I have also consulted many anatomical works, to ascertain the various opinions entertained upon the subject; none of which, however, appear to me sufficiently satisfactory to explain why these intersections only extend through half the thickness of the muscle, or why the posterior part of the sheath has no adhesion to the muscle, like the anterior part has. These two points have an importance attached to them that I do not think has been sufficiently dwelt upon.

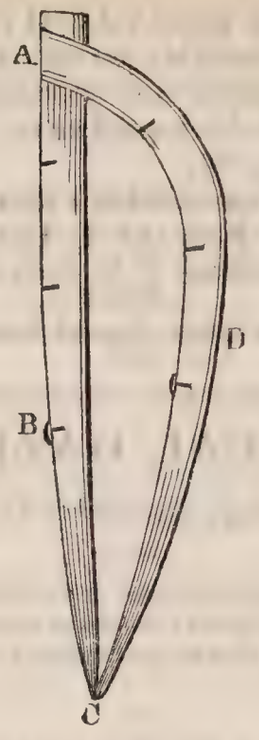
The tendinous intersections are generally three in number, one being situated opposite to the umbilicus, and the other two above it; sometimes there is a fourth, which is then situated below it. The peculiarity of these tendinous bands is, that they do not extend through the whole substance of the muscle, but merely occupy the anterior half of its thickness, leaving the posterior portion of it continuous, from its origin to its insertion. Another peculiarity is, that the anterior portion of the muscle adheres closely to its sheath by means of these transverse bands, while the posterior is unattached, and moves freely upon it.

Meckel says that these tendinous intersections "are undoubtedly incomplete repetitions of the ribs on the walls of the abdomen *;" but upon what analogy and reasoning he makes them such, he does not say. It appears to me that were they so, they should be placed rather upon the sides of the abdomen than upon its anterior part. Others suppose them to give additional power to the muscle, by giving the intermediate portions separate points to act from. But were this the case, why should they not extend through the whole thickness of the muscle? by which they would gain more power still. Another opinion held with regard to their use is, that they allow the muscle to have so many separate contractions,

* Anatomie Descriptive, tom. 2, p. 129.

instead of one large one, which would then press unequally upon the abdominal viscera, but which now is not the case. Finally, Bertin says* that these tendinous intersections do not simply adhere to the anterior part of the sheath, but that they are intimately blended with the fibres of the tendon of the oblique muscle, and that their use is to enable the recti muscles to assist more completely the action of the abdominal muscles than they otherwise could do. He traces some of the fibres upwards, and others downwards, so making them pull both ways upon the oblique muscles. But were this the object of these intersections, we should expect to find them adhering to the posterior part of the sheath as well as to the anterior, for they would then pull regularly upon it, instead of irregularly as they must now do, taking hold of its anterior part.

The explanation I would offer of their use is the following:—The recti muscles of the abdomen are the only ones in the body that have to keep up their tension, at the same time that the direction of their fibres is altered from a straight to a curved line, by which the anterior portion of the muscle is rendered concave, and the posterior convex; for the muscles must take this altered shape before they can have any effect in compressing the viscera, which is their chief office. Now in order to allow of the recti muscles doing this, I believe that their anterior portion, which is rendered concave, should possess a greater power of contracting than the posterior; and this, I think, is gained by means of these tendinous intersections, which we find placed on the anterior part of the muscle only; for I cannot but think that they must increase the power of action in the muscle, and enable it to act with greater energy than the posterior portion, which exists as one long muscle, continuous from its origin to its insertion. This point I would explain by a diagram. Suppose A, B, C, to represent a section of the rectus muscle, with its tendinous bands existing at its anterior part only, in the uncontracted state; and A, D, E, the muscle in action, when it takes its curved shape towards the viscera. Now in order to keep up the true degree of tension, when the muscle takes this altered shape, I



believe that it must contract more at its anterior than posterior part, and more at its most concave part, which is between the umbilicus and ribs; and this is the part where the tendinous intersections are chiefly placed. I am aware that the received opinion is, that these intersections, by dividing the muscle, do not give it any increased power of contracting; but I do not think this can be at all satisfactorily proved, owing to the difficulty of measuring with any degree of exactness the extent of action which takes place in a muscle, and which may be increased or diminished from various causes, which cannot be accounted for by any mechanical laws that are applicable to inert matter.

The other important point to attend to is, the absence of any adhesion between the rectus and the posterior part of its sheath. The object of this I conceive to be, to facilitate the action of the muscle, by allowing its posterior surface, which becomes convex backwards, to play and move freely upon it; which it could not do, were it adherent as it is upon its anterior surface. The tendency then would be, to draw the sheath towards the muscle, instead of pushing backwards, and pressing against the abdomen.

The above explanation appears to me to possess some plausibility, though I cannot say (owing to the difficulty of proving the particular action of different portions of the same muscle) that there

* Mémoires de l'Académie de Paris, 1746, p. 383.

are not objections to it. It is a point, however, of great interest in the physiology of muscular action, and one that I think requires more consideration than has hitherto been paid to it.

I remain, sir,

Your obedient servant,

EDWARD F. LONSDALE,
Demonstrator of Anatomy at Middlesex Hospital.

82, Guildford Street, Russell Square,
Dec. 1838.

MEDICAL GAZETTE.

Saturday, December 15, 1838.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

THE WANT OF SUBJECTS FOR DISSECTION.

THE Anatomy Bill, as administered by Dr. James Somerville, was never more inefficient or vexatious than it is this season.

We pointed out last October the evils inseparable from a system of distribution of the bodies, of which the power is placed in the hands of the present Inspector; and they are all now operating with a very greatly increased force. Their existence was, indeed, almost lost sight of during the latter part of the two last seasons; for the metropolis being visited by widely-spreading and destructive epidemics, the supply of subjects could scarcely fail to be sufficient. But even then it was but just sufficient—only just enough to moderate, and at last to lull, the complaints of the teachers, and for a season to secure the Inspector from blame. Up to the present period the metropolis has happily enjoyed the average of healthiness (though not more than the usual average during the autumn and winter months); the supply is extremely deficient; and so long as it shall please Providence to avert the calamities by which we were visited both last year and the preceding, the study of practical anatomy in London will be little more than nominal.

Let us again shew the absurdity of this scheme of distribution, by which Dr. Somerville is authorized to send a supply of subjects to each school proportioned to the number of its students. Before it came into action, when each teacher obtained what bodies he could, no means were left untried, no interest was unemployed, to persuade the parochial and other authorities to give up the bodies of those who died unclaimed while in their charge. Each teacher then received according to the exertions that he made, or the interest he could move, and every possible source of supply was made available. There was then no lack of subjects, or if there were, it was the fault of the teacher who suffered; and the only complaint was, that the indolent, or those who had the least powerful interest at their command, though well, were not *so* well supplied as their more active or more fortunate brethren. To remedy this, it was proposed that the supply, then large enough for all, should be equally distributed among them all. And what is the result? Why, that the most influential teachers, finding that they should have to work not for themselves but for their opponents, have given up all their endeavours to increase or maintain the supply. Nor was it likely to be otherwise; for a teacher, by using all the same means which he formerly applied for his own benefit, will now obtain for himself at most one-tenth of the former reward of his exertions. If, for example, he could both then and now obtain ten bodies from any source, instead of receiving them for his own use, they are now to be distributed amongst the different schools; and while he himself receives but a tenth of the proceeds of all his exertions, the remaining nine-

tenths are given to his opponents. It is ridiculous to suppose that any one would work on such terms as these; and of course no teacher now endeavours to persuade a single parish to permit their unclaimed bodies to be dissected.

But this is not the only evil of the system. Formerly, each teacher was held responsible by the parish or other authorities, for the proper conduct of the dissection, and the decent and punctual burial of the bodies which they consigned to him; nor would they send subjects to any but those teachers on whom they knew that they could depend for the fulfilment of all that they required in this respect. When, therefore, the system of distribution was adopted, several parishes at once withheld their former supply, the authorities not considering themselves justified in giving up bodies to teachers of whom they knew nothing, and having no confidence whatever in the Inspector, to lead them to think that he would see that the provisions of the Act were duly fulfilled.

But it will be asked, who could be so blind to these, the necessary consequences of such a scheme, as to ask for its establishment? Who could have obtained it? Why, chiefly Dr. James Somerville, who probably wanted a little more importance, and thought he should obtain it by wielding a kind of autocratic power over the teachers, with some of whom he was on no friendly terms. He managed it, by persuading the private teachers, that by joining him and carrying his scheme, they would be placed on an equality with those who, by their connexion with hospitals, had before obtained a disproportionate supply. He thus indirectly raised a great clamour, and so gave the appearance of the additional office of Distributor being forced upon him*.

By this time, however, Dr. James Somerville is, we suspect, the only person who would petition for a continuance of this part of his office; for if the small schools were formerly supplied in a less proportion than the large ones, they are now not supplied at all. In the general decrease of the whole number of subjects which has made the share of the large schools insufficient, the proportion of the small ones has fallen to 0! and the majority are, or for odour's sake, ought to be at this time, empty.

It must be remembered, moreover, that when the Inspector was made Distributor, (the evils which we have mentioned having been anticipated by some of those concerned), he promised to be Purveyor as well, and assured all the teachers that if they would agree to his scheme of distribution, he would take care not only that there should be no diminution of the supply, but that new sources should be opened;—that all the interest of the government should be employed—and that there should be an actual increase in the number of bodies consigned for dissection. Well, as we have already said, the epidemics of the two last seasons, while they continued, prevented his credit from being attacked; the supply was just sufficient—the teachers cared little whence or from whom it came—and the purveyor leisurely congratulated himself as he enjoyed the undisturbed ease, which death's unusual doings secured to him. This year, however, the mortality being happily not above the average, it is quite a different thing. The Inspector's part of the supply is now found to be a mere nullity; and it appears that while the interest of many large parishes has been lost, there has been scarcely one new source of supply discovered.

We will readily grant, that had the right of distributing been bestowed on

* We have only lately become acquainted with this the true version of the tale, or it should not have remained so long unpublished.

a person possessing more influence or more tact than the present Inspector, it might have succeeded much better; indeed, if the Bill were well worked, the supply would be so abundant that a distribution, or any other absurdity might be grafted upon it, without materially affecting the interests of any of the schools. But with parish authorities, and with nearly all those who have bodies at their disposal, Dr. Somerville is singularly unsuccessful. They, being plain men, can neither understand nor appreciate that air of diplomatic mystery which the Doctor assumes, and seems to think essential to the fulness of official dignity;—they call it all *humbug*. A plain, honest, straightforward conduct is all that would be necessary, not only to conciliate their good will, but to secure their entire co-operation in all that is required; and any man of common repectability, who would pursue this simple course, might insure an efficient working of the Bill.

However, we are less concerned with the detail of Dr. James Somerville's personal defects for this office than with the result, which is, that many sources of supply which were formerly open to teachers of anatomy, are now closed against them. We know the opinions of the officers of several of the parishes; and there are many who say, that rather than have any thing to do with the present "authorities," they will bury their dead poor at their own expense; and many more who, without expressing so much, will yet not give up the bodies, because they know neither for whom nor for what they are destined.

Thus much for the procuring of bodies: the Inspector is, to say the best, useless—private exertion is entirely given up, and a general co-operation of the teachers is, of course, not to be expected. Let us now look to the distribution of the few bodies that come, as it were, of themselves. After deducting those over which he has no power, viz., those supplied by the hospitals to their own schools, and those from a few parishes who still insist of sending them to the schools which they choose, there is left but a very small number on which the distributor can exercise the functions of his office. For the division of these, which we will assume is equitably managed, there is put in force a machinery most ludicrously ponderous, and at the same time most vexatiously inquisitorial—a registration of the names, place of birth, and place of residence (why not of the parentage, personal appearance, and early habits?) of each student, and a succinct account of his previous anatomical studies, which he has to sign in proof of its correctness, and which the teacher must countersign, to certify that the pupil is *bonâ fide* his! Thus the number of students at each school can be guessed at, and the phases of success and failure in each can be shewn to the public in a manner that must be peculiarly gratifying to those whose reputation is on the wane, and with a degree of fairness equal to that which would announce the actual property of each merchant on the Exchange. However, all this confers dignity on the Inspector, which is of much more importance; and, pleading the extraordinary accumulation of these and other similarly valuable documents, he is about to be accommodated with apartments in Somerset House! from which he may inspect, purvey, distribute—and draw his salary.

So much for two parts of the office; let us next see if Dr. Somerville be more efficient in the third—that of inspecting. No; he resides at Chelsea, and scarcely crosses the threshold of any dissecting-room more than twice in the same season; and evasions of the regulations of the Anatomy Bill, which are published in the daily papers, remain unnoticed by him.

In short, the Inspector does not inspect the schools; the purveyor does not obtain subjects; and the distributor has very little to distribute. And now, as this complex official, and his employers, are fond of Returns, we will suggest, as the subjects of the next—the number of new sources of supply which Dr. Somerville has obtained since the scheme of equitable division was commenced; the number that have been withdrawn in the same time; and the number of subjects thus lost. Then let his salary be divided by the number of subjects of which he has had the distribution, that the government may see how much it costs them for each body thus supplied. [We can, without returns, tell them that it is about three pounds]. It might then be well to ask (for Commissioners ask more impertinent questions every day), how much time the Inspector gives to his work? And, in conclusion, it would be but right to consider whether some means might not be found which would prevent the Inspector from requiring the assistance of an annual epidemic to keep him in credit, or to give his office even an appearance of efficiency.

WESTMINSTER HOSPITAL.

Clinical Lecture by Jno. Burne, M.D.

November 5th, 1838.

Case XX.—*Ascites with Utero-gestation; Miscarriage; Ascites cured—Chronic Diarrhœa cured by Sesquioxide of Iron and Port Wine.*

In the two former lectures I offered to your notice various cases of dropsy, and I have yet one more to speak of to-day.

Mary Whale, aged 34, married one year, but has had no child, admitted on the 21st of August, 1838. As long as eight years ago she threw up, as she reports, a great quantity of blood, since which she has been in weak health; and latterly subject to a diarrhœa. She did not menstruate till the age of 22, but the periods were always regular up to last spring. In March her abdomen began to swell at the lower part, and continued to enlarge up to her admission into the hospital. She was of a small stature and delicate frame, exsangueous, emaciated to a very great degree, and had a sallow linear face, indicative of visceral disease. The abdomen was greatly enlarged, and, on percussion, yielded a very distinct fluctuation; and in the hypogastric region was distinguishable, through the fluid, by the points of the fingers, a hard tumor having an equal surface, as far as could be ascertained. The pulse was small and weak, the appetite indifferent, the tongue clean and reddish, the bowels relaxed, and the urine very scanty, but not albuminous. Diagnosis recorded: —Ascites, with a quere as to the tumor being ovarian.

℞ Potass. Bitartratis, ʒss.; Tinct. Scillæ, fʒii.; Sp. Ætheris Nitrici, fʒss.; Aquæ destillat., fʒvii.; ♏ ʒj. bis quotidie.

On the fourth day after admission she was seized, in the evening, with pain in the abdomen and back; and, next morning, at ten o'clock, she miscarried of a five months' fœtus: she herself having no idea of being pregnant until the miscarriage actually occurred.

From this accident she recovered in a few days; after which the ascites gradually increased; but the tumor was gone. The relaxed state of the bowels continued to distress her, and forbade the use of mercury or elaterium; even the bitartrate of potass could not be continued. I therefore had recourse to the endermic use of iodine, in the form of the Ung. Iodinii Comp. rubbed on the abdomen twice a day.

With a view to tranquillize the bowels, kino, opium, and creosote, were severally prescribed, but without effect. The diarrhœa persisted, dejections taking place every quarter of an hour, and exhausting her excessively. I now (Sept. 6) gave her the Ferri Sesquioxidi ℈j. ex Vini Lusitanici fʒj. thrice a day, which relieved the diarrhœa almost immediately, and improved her strength. The iodine ointment to be persisted in.

In the course of a week her health was much recruited; the ascites began to diminish; and, the same means being continued, it had entirely disappeared by the end of September. She persevered in the use of the iron and wine until she left the hospital, on the 9th of October, in comparative good health.

This case, you all, I have no doubt, remember perfectly. It was a combination of ascites with utero-gestation; by no means a common occurrence, although

many cases have at different times been placed on record. In the examination of this patient I at once judged the dropsy to be ascites, for this reason, that the fluctuation was remarkably and equally distinct in every part of the abdomen. In ovarian dropsy, the fluctuation is usually less distinct than in ascites, because the fluid is apt to be thick and viscid, whereas in ascites it is of a more thin and serous nature. A tumor having been discovered in the lower part of the abdomen, the question arose as to its nature, and how far it was concerned with the dropsy. The situation of the tumor evidently referred it to the uterus or the ovaria; but inasmuch as I felt satisfied from the fluctuation that it was a case of ascites, I necessarily paused before determining whether the tumor was ovarian or otherwise; and this point was therefore left for further inquiry.

That a tumor existed there could be no doubt, although at first it was not altogether easy to be distinguished. You will recollect that this patient having a large quantity of fluid in the abdomen, and lying horizontally, there was a considerable depth of fluid between the abdominal parietes and the tumor, so that upon examining the lower part of the abdomen with the flat hand, the tumor was not arrived at. But on making a sudden pressure or dip with the points of the fingers held perpendicularly, the fluid was displaced, and the fingers struck against a resisting body—the tumor. One examination only having been made, and the patient being greatly emaciated, and her face presenting the linear aspect indicative of visceral disease, the idea of pregnancy (in such a person) did not suggest itself; and before my next visit she had miscarried.

This case, as regards the determination of the tumor, is a practical illustration of the manner in which the abdomen should be explored where ascites exists. In the first place, it is necessary that the patient should be in a recumbent posture; for, in the erect position, disease of the abdomen cannot be detected with facility or certainty, the tense abdominal muscles forming an obstacle to the exploration. But when the patient is lying horizontally, with the muscles relaxed, you are able to explore the condition of the abdominal viscera with great exactness. When fluid is present in the abdomen, you determine the co-existence of a tumor more readily and certainly by examining with the fingers held perpendicularly, and making a sudden dip or pressure, than you can do by making pressure with the fingers and hand flat, as was proved in this case. The advantage of this method is also illustrated in ascites with enlarged liver, in which case there is generally a considerable layer of fluid between the enlarged liver and the parietes of the abdomen, which prevents you detecting the enlargement of the organ by pressure with the fingers and hand flat; but by making a sudden dip with the fingers held perpendicularly, you displace the fluid, and strike against the solid resisting liver.

You know that the usual cause of ascites is induration of the liver, which, obstructing the circulation through the portal system, causes congestion, and this again the dropsical effusion. It will be remembered that some years ago this patient threw up a great quantity of blood. It is impossible to say whence this blood proceeded, whether from the stomach or from the lungs; but inasmuch as she had abdominal dropsy, and presents, moreover, the aspect of visceral disease, it is probable that the blood came from the stomach in consequence of an indurated state of the liver, although this organ was not enlarged so as to be palpable below the ribs. The disease of the liver, however, was not so decided as to render the ascites permanent; for we have seen that it was removed by means of the compound iodine ointment, aided by the improvement in her strength from the iron and port-wine. The ascites was cured without tapping—a success we can rarely calculate upon.

This case offers, also, a very good instance of the excellent effect of the sesquioxide of iron and port-wine in chronic diarrhœa occurring in shattered constitutions. The patient had a diarrhœa which exhausted her excessively; but, being controlled by the iron and wine, her strength improved, and she was soon restored to a comparative condition of health. In the next case you will further see the value of this remedy in controlling a diarrhœa, which, so far as my experience has gone, yields with difficulty, if at all, to any other.

CASE XXI.—*Sub-acuto Chronic Hepatitis.—Enlarged Liver.—Diarrhœa cured by Sesquioxide of Iron and Port-Wine.—Ndes cured by Quinine and Belladonna.*

Sarah M'Cormac, age 23, admitted on the 24th of July, 1838, having been ill 12 months. She was an unfortunate girl, had borne a child before she was 16 years of age, and been the subject of syphilis.

She complained of sickness and vomiting, which had distressed her for three weeks, and of a diarrhœa, which had harassed her for three months previous to her admission into the hospital. She was excessively emaciated, and her life in danger from the exhaustion consequent on the gastro-enteritic irritation and diar-

rhœa. The abdomen was flat; the liver much enlarged, the right lobe extending as low as the umbilicus, and the left occupying the corresponding half of the epigastric and hypochondriac regions; and the whole was hard and tender when pressed. The dejections disturbed her constantly; were frothy, like yeast; and the quantity voided in 24 hours was large. The tongue was clean; the skin dry and harsh; the pulse small and frequent; no appetite.

℞ Hydrarg. Chloridi Opii aa. gr. i. M. et in Pilulas viii. divide. Unam secundâ quaquâ horâ devoret. Empl. Cantharidis epigastrio.

July 27.—The calomel and opium quieted the bowels in some degree, but the sickness and vomiting persisted.

℞ Ammoniæ Sesquicarb. Magnesiæ Carbonatis aa. ℈ij. Tinct. Calumbæ f. ℥ss. Aquæ destillat. f. ℥viiss. M. ℥i. ter quotidie. Rep. Hydrarg. et Opium.

These had the effect, after a few days, of removing the tenderness in the region of the liver, and of appeasing the irritation of the stomach; and, in a less degree, that of the intestinal canal; but she did not make much progress, and the diarhœa returning, I prescribed, in lieu of the above,

Creosoti gtt. i. ter quotidie.

Aug. 4.—But little advantage attended the use of this medicine; it was therefore discontinued, and the Ferri Sesquioxidi ℈i. Vini Lusitanici f. ℥i. substituted.

In the course of two days she began to experience decided relief from the iron and wine; and in five or six the bowels became steady, "felt comfortable," the dejections being reduced to two or three in the twenty-four hours; the appetite returned, and she soon began to gain flesh.

20th.—Being now very much better in every respect, the iron and wine were discontinued, and an effort was made to reduce the enlarged liver by means of iodine, beginning with small doses, guarded with opium.

℞ Potassii Iodidi, ℈j.; Potassæ Bicarb. ℈ij.; Tinct. Camph. Comp. f. ℥iii.; Aquæ destillatæ, f. ℥viiss. M. ℥j. ter quotidie.

This remedy was persevered in, with occasional interruptions, for a week, when a relapse of the diarrhœa occurred with so much violence as to oblige me to abandon the iodine, and to resort again to the iron and wine. These had the same beneficial influence as before, and under their continued use she gained flesh and strength daily (the liver, nevertheless, remaining as large as usual,) and was about to be discharged from the hospital, when, towards the end of September, large nodes appeared on both tibiæ and both ulnæ, accompanied with severe pain, heat, and tenderness.

On account of the irritable state of the alimentary canal, the internal exhibition of iodine or mercury was out of the question. I therefore directed the Ung. Iodinii Comp. to be applied to the nodes; but this having proved too irritating, recourse was had to the following:—

℞ Potassii Iodidi 3j.; Adipis ℥j. M. f. Linim. partibus affectis admovendum.

℞ Quinæ Disulph. gr. v.; Extracti Belladonnæ, gr. j. M. f. Pil. ii. bis quotidie sumend.

All agreed well except the belladonna, which produced vertigo, dimness of sight, and heat and suffusion of the face, on which account the dose was reduced to a *quarter of a grain*, which was borne without any unpleasant effect. Under this treatment the pain, heat, and tenderness of the nodes began to subside quickly, and the nodes themselves to recede; but, desirous of determining on which remedy the curative effect depended, I desired the patient to discontinue the use of the iodine and to persevere in the quinine and belladonna. With these remedies (the iodine having been omitted) she progressed rapidly, the nodes diminished from day to day, and she left the hospital convalescent in the course of a very short time, having gained more flesh than one would suppose it possible, under the circumstances of so large and so diseased a liver.

This was a very well marked example of subacuto-chronic inflammation of the liver, with enlargement of the organ, depending, no doubt, on the irregularities of the individual, she having been "on the town," and guilty of the excesses which most of these unfortunate persons fall into.

By subacuto-chronic inflammation is meant inflammation—*mild* as regards degree, but *long* as regards duration: it was a subacute inflammation, lasting a considerable time, and therefore chronic also. In this patient the enlargement of the liver was well defined; and the outline which determined its size was traced with less difficulty than in most other cases, because the abdomen was flat, from the emaciation and diarrhœa: one could distinctly mark the diseased organ extending as low as the umbilicus.

Where the liver is enlarged, and the abdomen distended with flatus at the same time, the exact size of the viscera is not so easily distinguished. Under these circumstances you may avail yourself of the plessimeter, which will indicate the

dimensions of the liver by the dull sound emitted when the plessimeter is struck; whereas, when you pass the boundary of the solid liver, the sound will be hollow, owing to the flatus in the intestines, so that by these signs the extent of an enlarged liver may be defined exactly. In the case of M'Cormac it was unnecessary to have recourse to the plessimeter, on account of her emaciated condition.

The irritability of the stomach amounted almost to a muco-gastritis, and depended, in a great degree, on sympathy with the liver; for wherever there is hepatitis, acute or subacute, of the parenchymatous substance of the liver, there the abdominal viscera, as the stomach and alimentary canal, will sympathize more or less: but where there is sero-hepatitis, or inflammation of the peritoneal surface of the liver, then the thoracic viscera will sympathize, as evidenced by the cough and trouble in the respiration which always accompany this inflammation. We have in the hospital, at the present time, a well marked instance of sero-hepatitis, in which this sympathy of the thoracic viscera exists, and which case I shall bring forward on a future occasion.

All these cases of sub-acute hepatitis, with great gastric irritation, occurring in constitutions shattered by intemperance, are difficult to cure, so constantly does the stomach reject all medicine. That which I find most useful to commence with is calomel and opium, the dose being small in proportion to the irritability of the stomach. I gave this patient only the eighth of a grain of each, which agreed well, and produced a beneficial effect. I remember prescribing for a gentleman, under such circumstances, the twelfth only of a grain of calomel, and the same quantity of opium, with great advantage. Medicines, therefore, in these minute quantities, are more beneficial in an irritable state of the stomach, than when prescribed in what are called decided doses.

I have no doubt, also, that the cure was aided by the regimen the patient was obliged to observe in the hospital, which insured abstinence from spirituous and other fermented liquors, which persons accustomed to such stimulants will not observe, if left to their own discretion, however great their sufferings. When the inflammatory symptoms had in some degree subsided, recourse was had to the ammonia, magnesia, and calumba, a combination which will frequently appease the irritability of the stomach at this time.

When this patient first came into the hospital the diarrhœa was most urgent; she was worn down and exhausted by the constant action of the bowels, for although it was more or less checked by the calomel, opium, &c., yet it returned constantly till I had recourse to the iron and port-wine, which, proving signally efficacious, arrested the diarrhœa, and greatly improved her general health.

The appearance of the nodes was extremely sudden. She was on the point of leaving the hospital, when she exhibited large nodes on both the tibiæ and both the ulnæ, saying they had formed since my last visit. They were hot, rather red, and severely painful; and might have been suspected to be syphilitic. This would necessarily have suggested the use of mercury or iodine—remedies which, in the irritable condition of the alimentary canal, it was impossible to think of resorting to, except the latter endermically. I had seen nodes on former occasions, depending simply on a cachectic state of the system, wherefore I thought it advisable to have recourse to medicines calculated to assuage pain and improve the general health; both which objects were attained by the quinine and belladonna.

When belladonna is given in too large a dose, it is said to produce heat and efflorescence of the face and surface of the body, vertigo, and dimness of sight, all of which signs appeared in M'Cormac. It is on account of this power of belladonna to produce efflorescence, that Hahnemann, the homœopathist, fixed upon it as a remedy in scarlet fever; and undoubtedly a most efficacious remedy belladonna is in that fever, but not in an infinitesimal dose, as I believe.

The belladonna having produced so much effect, it became necessary to diminish the dose; which being thence reduced to a quarter of a grain, agreed well, and in conjunction with the quinine cured the nodes.

In the administration of powerful medicines like belladonna, it is necessary to be circumspect, and to watch their effects closely. Belladonna is a valuable remedy when the dose is regulated with due precaution; but otherwise, results of an unpleasant nature may arise.

Nodes are said to depend on inflammation of the periosteum, accompanied with more or less swelling of the bone: the inflammation of the periosteum being the primary condition. We have lately had two examples (one still in the hospital) of inflammation of the bone itself, which, having some affinity to the case of nodes, may be now briefly spoken of.

Of the cases to which I allude, one occurred in a young man admitted on account of rheumatic pains. On examination, however, it was found that the pain of which he chiefly complained was si-

tuated in the left thigh-bone, and that the bone itself was much enlarged from below the great trochanter to near the condyles, and the limb so weak as to require him to use a crutch. On the outer side of the knee there was also a small fistulous abscess. From the history given by the patient there remained no doubt in my mind that rheumatic inflammation had settled in the bone of the thigh, and produced necrosis, as will be apparent.

The fistulous abscess had a small orifice, and when a probe was inserted, in order to determine whether any sequestra could be felt, none was perceived; and you may remember that the matter discharged from the abscess had not the fœtid odour of a carious bone. But these seem to be peculiarities of this stage of necrosis. Mr. Russell, who published a "Practical Essay on Necrosis," says, "The matter which discharges from these fistulæ is almost uniformly of a good quality, neither offending in point of smell, colour, nor consistence." He also mentions, that "a probe introduced at the orifice of the fistula, seldom penetrates to any great depth, or discovers any loose piece of bone; for in this stage the sequestra can seldom be felt." The probability, then, is, that the bone was already dead, and that the enlargement depended on the osseous shell which forms in necrosis.

The other case, at present in the house, is that of George Milton, aged 42, who was also admitted on account of rheumatic pains. In him the left thigh-bone is enlarged, with pain shooting from the hip to the knee, much aggravated when he is warm in bed. He feels the limb weak, and walks rather lame, but there is no abscess, and the swollen bone does not feel so hard as in the former patient. He has had gonorrhœa more than once, but affirms that he has never been affected with sores—that he has never had syphilis.

From the condition of the bone, and other symptoms, it is evident that the enlargement is the result of inflammation of the bone itself—ostitis; and if it does not yield to treatment, there is danger of necrosis. The plan adopted has been counter-irritation over the whole thigh, by croton oil, purgatives, warm baths, and moderate diet; abstinence from all kinds of fermented liquors.

Necrosis is seated in the long bones: it seldom or never occurs in the flat bones, except the lower jaw, where it is generally the result of an injury. These efforts have been followed by a certain diminution in the general size of the bone, and some relief to the pain, but he is still weak and lame.

I advert to these cases in order to introduce one practical observation. Necrosis belongs to the department of surgery, but inasmuch as inflammation of the bone, which may lead to necrosis, may arise while the patient is under the care of the physician for rheumatism, I wish to excite your attention, and to render you alive to the first signs of any such disease, because it is in the commencement only that treatment will avail. Unless the case is understood, and proper measures are adopted, even before the bone has swollen, the chance of saving it from necrosis is, according to the evidence of Mr. Russell, very slight. If, then, a patient under care for rheumatism is attacked with severe pain fixed in one of the long bones, you would suspect inflammation of that bone; and the pain persisting, you would have recourse to antiphlogistic measures, in order to resist and subdue the inflammation. If the cause of this pain is not understood, the nature of the disease will not be discovered till enlargement of the bone has taken place, and the second stage, in which necrosis will probably form, is at hand. This is the practical point which I am desirous of impressing upon you.

It is the characteristic peculiarity of rheumatism to shift from place to place—not to fix itself in one part or about one articulation; one part gets well, and another becomes affected: rheumatic inflammation is erratic. Hence, if you find one joint remains more permanently affected—if the symptoms of pain, heat, &c. seem more localized than usual, you will be alive to this circumstance—that probably the rheumatic inflammation is no longer confined to the tissues external to the joint, but that it has absolutely invaded the synovial membrane, and you will adopt means accordingly—that is to say, you will direct your remedies to this joint; whereas, so long as rheumatism wanders from one joint to another, so long you are sure that no important tissue is concerned, and that the disease will yield in due time without permanent injury to the articulations. So if the pain should manifest itself in one of the long bones, you would be aware of its importance, and treat it accordingly.

There are now several cases of great interest on both sides of the house. It is worthy of observation, that although for several weeks, I might almost say months, we have been without much active disease, yet immediately that the weather changed, and we had humidity with cold, the wards became full of serious organic inflammations, which will pass under our review in due time.

WESTMINSTER MEDICAL SOCIETY.

December 1, 1838.

DR. CHOWNE, PRESIDENT, IN THE CHAIR.

Discussion on Delirium Tremens—Poisoning by Carbonic Acid Gas.

A MEMBER asking a question as to the greatest quantity of opium that could be given safely,

Dr. Addison stated that he concurred in the general opinion as to the efficacy of the salts of morphia in certain kinds of delirium tremens. He thought the term delirium *tremens*, adopted as a name for this singular disease, objectionable, because in many cases tremor did not prevail; and in others, where there was a highly irritable constitution, this tremor (supposed erroneously to be proper to this disease) might accompany and precede attacks of apoplexy and hemiplegia. He had witnessed several cases of this nature. In such circumstances bleeding and a vigorous antiphlogistic plan of treatment, were indicated. But in the true delirium tremens, bleeding was not always proper; but there were instances in which, in his opinion, the depleting system was indispensable, but great vigilance was required of the medical attendant, in order to ascertain the capricious variation of the symptoms, and alter his remedies in consequence. He was of opinion that delirium tremens did not always arise from excess in drinking; it sometimes was a consequence of moral causes. One case especially presented itself to his recollection; it was but one amongst many that he had witnessed. A young woman of respectable station became the housekeeper of an aged relative. She grew attached to a nephew of her employer; but this gentleman discouraged the intercourse between the young people, and, to put a final stop to the affair, he sent her back to her friends. She soon became affected with the well-known symptoms of delirium tremens; but no remedies availed, neither ordinary stimulants, nor opium in any shape, nor depletion, produced the slightest benefit. He, Dr. Addison, was disposed to think that there was an important distinction between the delirium tremens arising from moral causes, and that arising from sensual intemperance, though the line of demarcation had not yet been well drawn. In the former class of maladies the treatment was much less successful than in the latter. He thought medical men would find this to be a productive field of investigation.

Mr. Streeter would inquire of Dr. Addison whether he had not experienced that cases arising from sudden breach of drinking habits were not of a much more obstinate kind than those arising from an uninterrupted continuance in the potational intemperance. Such was the conclusion to which his experience had brought him. He would also inquire of Dr. Addison what he had found the pathological condition of the brain to be in cases of delirium tremens generally. In two instances which had occurred to himself he had, by a post-mortem autopsy, ascertained the presence of serous fluid in the ventricles, and between the surfaces of the arachnoid. He had seldom seen any great degree of injection of the blood-vessels of the encephalon.

Dr. Addison acknowledged there was an idea prevalent that cases of delirium tremens springing from sudden abstinence were more intractable than others, but he was not yet prepared to yield his full assent to the proposition. In the pure cases of delirium tremens which he had had the fortune to witness, he could not trace any marks of inflammation in the brain; he had frequently observed a greater whiteness than usual in that important viscus. He had heard Sir Astley Cooper declare that such also was the result of his experience. In some instances he (Dr. A.) had seen slight opacity of the arachnoid membrane, and patches of lymph underneath it. He had but seldom observed the brain to be injected. He reiterated his opinion that many cases are named delirium tremens which were true examples of apoplexy in nervous temperaments, and in which extravasation of blood or effusion of serum would be found in the cavities or around the periphery of that organ.

Dr. J. Johnson thought that cases of delirium tremens arising from mental causes could not be unknown to practitioners who conjoined the talent of observation to the possession of experience. He had recently attended a medical man of great accomplishments, in whom *love* was the cause of the malady; but what was singular in the history was, that the "lady-love," who attended the gentleman most assiduously during his illness, became, upon his recovery, affected with the same disease. The ordinary treatment with opium proved effective in both cases.

Dr. A. T. Thomson had seen a case in which a young gentleman, reared up as the heir to a large estate, being disappointed of his inheritance, became the subject of this disease. He (Dr. T.) was disposed to think that peculiarity of temperament had a great deal to do with the liability of individuals to be attacked with delirium tremens. The sisters of his pa-

tient were martyrs to hysteria, and he felt disposed to believe that there was some kindred between the two affections.

Dr. Johnson said that his patient was of a nervous temperament, and it might be possible that that might be a predisposing cause.

Mr. C. Chowne related the case of a medical student, who, having read a good deal upon the maladies of the urinary organs, became the subject of delirium tremens, and fancied that he had a stone in his bladder. He was treated with opium and stimulants, and recovered.

Dr. Addison was inclined to consider the case of Mr. Chowne as one of monomania. He certainly thought that the pathological condition called delirium tremens was due rather to irritation than inflammation of the brain.

Mr. Snow inquired of Dr. Golding Bird whether, in the statement he had made to the Society on a previous evening, viz., that from eight to ten per cent. of carbonic acid in the atmosphere would be fatal to life, he meant simply an adulteration of the atmosphere by the admixture of that quantity of carbonic acid, or the deterioration of the atmosphere by decomposition, so as to produce that proportion of carbonic acid in it, as in a brewer's vat, or in a chamber where the burning of a charcoal stove had occurred.

Dr. Bird replied that his opinion was derived from certain experiments performed by Müller, as well as experiments conducted by himself. He thought that an atmosphere impregnated with that quantity of carbonic acid would be fatal to life.

Mr. Snow now made some observations in a very low tone, and consequently his meaning could not be very well caught. He stated that an important difference existed between the two cases, although the fact had not been noticed by any writers. Death did not arise in either case from the sedative power of the carbonic acid gas, but from the deficient quantities of oxygen in the atmosphere. The lungs could only extract a certain volume of oxygen from the air, in consequence of the affinity which one gas bore to another. When an atmosphere is deteriorated by respiration, by a charcoal stove, or by any other chemical process, the proportion of the constituent gases is very different from what it would be in the case of a simple adulteration of the atmosphere by the addition of 10 per cent. of the deleterious gas, for the process of combustion not only adds carbonic acid to the atmosphere, but abstracts a large portion of its oxygen, and thus in three ways renders it unfit for respiration: 1, by adding a quantity of carbonic acid; 2, by abstracting from the wholsome proportion of oxygen; and 3, by setting free another deleterious gas, the nitrogen. ·017 of carbonic acid gas generated by the burning of charcoal, would be equally destructive with ·08 of the same gas introduced by simple mixture. Mr. Snow had mixed certain gases, and had respired with impunity as much as ·40 of carbonic acid, when the proportion of oxygen was increased in an equal degree; and he inferred, from his experiments, that the absence of oxygen, not the presence of carbonic acid, or any other gas, was the usual cause of death in cases of asphyxia from deteriorated atmosphere.

Dr. Bird thought the physiological effects of the carbonic acid would be the same, when the proportion of the gas in a given atmosphere was similar, whether the gas was added to the atmosphere, or the atmosphere was deprived of part of its oxygen by the combustion of charcoal. The observation of Mr. Snow, touching the emancipation of the nitrogen, he thought interesting, and had a practical application; for if in a chamber containing 110,000 cubic feet of respiratory atmosphere, 49 pounds of charcoal were burnt in ten or twelve hours, not only would 1500 cubic feet of oxygen be absorbed, but 9,000 cubic feet of irrespirable nitrogen would be set free, and thus two poisonous gases would at one time exert their influence upon the living frame of the inmates.

Dr. A. T. Thomson considered that it would be interesting to measure the sedative and suffocative influence of the carbonic acid gas. In some cases death was produced gradually by apoplexy from the absorption of this gas, by the lungs of a person lying near a stove. When an animal was suddenly placed in an atmosphere containing this gas, the glottis closed, and death from suffocation occurred. Dr. Priestley had proved the sedative property of carbonic acid, for having burnt his hand, its immersion in a jar of carbonic acid immediately relieved him.

Professor Everitt thought it important to ascertain how much less than ·10 of carbonic acid in the atmosphere could for a length of time be inhaled with impunity. It was admitted by the several proprietors of the various stoves, that by the combustion carried on in them, one per cent. of the deleterious gas was added to the atmosphere. How long could such an adulterated atmosphere be respired without danger or injury. For his part, he should not like to breathe in such a medium, especially when he recollected the result of the experiments of Saussure, who was the greatest chemical authority on the subject. That eminent philosopher

had made many thousand experiments on atmospheric air, taken from high and low situations, at all seasons of the year, at all times of the day and night; in crowded assemblies and in the open plain, and in short under every variety of circumstances, and the maximum of carbonic acid obtained in any case was ·0004. The one per cent. of carbonic acid introduced in the atmosphere of air by the combustion carried on in these stoves was twenty-five times in amount what the natural state of the air contained. It was for medical gentlemen to decide what the effect upon health of the habitual use of such an apparatus would be. Some people, he had observed, were peculiarly sensible of the presence of the gas; and a very slight increase of what might be called its normal proportion, caused disagreeable symptoms.

Dr. Bird would bear his testimony as to the different susceptibility of individuals to the influence of carbonic acid gas. He had notes of three instances which proved the truth of Mr. Everitt's observations. 1. Two sisters, in Paris, slept together in a room where was charcoal burning in a chafing-dish. One sister slept with impunity, but in the morning she found her sister dead by her side. 2. In a second instance, related to him by Mr. John Read, the mechanician, a young woman, with her husband and her child (very young), slept in a room where burning charcoal was put in the fire-place. The husband, on rising in the morning, found his wife dead and his child insensible. 3. The third instance was that of two medical students in a dispensary, who, in cold weather, burnt charcoal in a warming-pan, to keep them warm. In a short time one of them fell down senseless; the other remained unaffected.

Mr. Everitt supposed that every body was familiar with the inconvenience experienced from the use of the stoves in Germany. In that country the fire was not in the room, and consequently the inconvenience was not the effect of any deterioration of air. It arose from the great dryness produced by the want of circulation of air, and the consequently greatly increased evaporation from the surface of the body. In his opinion, it was a chemical law that all gases had a strong tendency to intermingle, and would do so in a given time. Carbonic acid evolved from a brewer's vat, or from a stove, would soon diffuse itself in the atmosphere of a room. The gas given off from a stove being of a higher temperature than the surrounding air, would ascend; but the motion of the air would soon cause it to mix equally. There would be no more danger near the stove than away from it.

Dr. Bird agreed with Mr. Everitt that the admixture of gases in a small apartment would quickly take place, and the specifically lighter gas would ascend, as in the case of the heated carbonic acid; but it would only ascend until it had disengaged itself of its caloric, when it would rapidly descend. But in the immediate neighbourhood of the stove the stratum of air would be heated, and its specific gravity so much diminished that the newly generated carbonic acid would at once intermix with it. In fact, in the large stove in St. Michael's church, Cornhill, a stream of carbonic acid could be ascertained to be descending from a hole in the side in a parabola to the ground. He thought the objection obtained equally against Dr. Arnott's stove as against any other.

To prevent the dryness of the atmosphere produced by these stoves, he recommended a wet sponge to be placed in a flat dish, with a perforated cover. From this a constant evaporation would be kept up.

IDIOS.

ERRATA.—In the last report, p. 381, l. 10 from the bottom, *for* "carbonic" *read* "caloric;" p. 382, l. 11 from the top, *for* "water" *read* "lime-water."

PHYSICAL SOCIETY, GUY'S HOSPITAL.

December 1st, 1838.

DR. BARLOW IN THE CHAIR.

Case illustrating the injurious Effects of Joyce's Stoves.—Paper by Dr. Ashwell, and Discussion on the morbid Effects of protracted Lactation.

WHEN the minutes of the preceding meeting had been read and confirmed,

Mr. Chapman, of Tooting, related the following case illustrative of the prejudicial effects of Joyce's stoves:—

CASE.—On the 15th November of the present year I received a hasty summons to attend Mr. W. J., æt. 19, and found him in the semirecumbent posture, labouring the following severe symptoms, viz.:—Violent pain in the head, with a sensation of constriction around the forehead and temples, resembling (as he said) that produced by a tightly bound cord; widely dilated pupils, feebly contracting when exposed to light; singing in the ears; pulse 120, feeble and regular; great paleness of the face, with slight lividity of the lips; extremities cold; hands of a faint purple hue; slightly difficult and irregular respiration; and prostration of strength amounting to inability to stand.

Hot water was applied to the feet, and a small quantity of brandy and water and

ammonia was exhibited, with the effect of gradually increasing the volume of the pulse, and restoring warmth to the extremities.

Though the amount of stimulus was but small, he became very violent, endeavouring to thrust away those around him; and the pain in the head still continued without diminution. About 6 ounces of blood were then taken from the arm, with the effect of relieving his head symptoms, increasing the activity of the pupils, and diminishing the difficulty of breathing. About an hour after the abstraction of blood, he became calm and collected, and gave the following history of the cause of his symptoms:—

He stated that he was perfectly well after breakfast, and that he retired to study in a small room warmed by one of Joyce's stoves. Within an hour he felt a little pain in the head, and dizziness, which obliged him to open the window, when these disagreeable sensations vanished; but, feeling the cold air uncomfortable, he was induced to close the window, and remained at his studies for another hour, when he felt so seriously indisposed, that he was compelled to leave the apartment. His friends, alarmed at his aspect, immediately summoned me to his assistance, and the above-mentioned symptoms were then carefully noted.

No discussion arising upon this case,

Dr. Ashwell read a paper on the morbid effects of undue lactation.

This was a subject of great importance, and it was surprising that so little had been written upon it; for, with the exception of Dr. Marshall Hall, who had alluded to some of the derangements of the nervous system associated with suckling, he was not acquainted with any author who had said much about it. There were three positions which he was desirous of maintaining in the present paper:—1st, Lactation to be morbid need not be of long continuance, a few weeks being often sufficient to induce mischief. 2d, This mischief is not always merely functional, for organic disease occasionally results from undue lactation. 3d, Weaning is the principal efficient remedy. With regard to the symptoms and effects alluded to, he would make this general remark, that however they may vary in degree, or be modified by accidental concomitants, "still exhaustion is the permanent morbid state associated with undue suckling." The following is the usual order in which the symptoms proceed:—Women of a weakly constitution, who have been chlorotic or out of health before marriage, are most liable to suffer. An imperfect nourishment of the infant, and the general debility, anæmia, and pallor of the mother, indicate that the evils of over-lactation have commenced. Inquire closely, and it will be found that the milk is scanty, with difficulty secreted, and at long intervals, so that the child is obliged to have a supply of artificial food. If the attempt to nurse be persisted in, these effects become more apparent. Together with general mental excitement there is a frequent proneness to hysteria; the pulse is rapid and weak; the muscular system throughout relaxed and enfeebled; appetite gone, or capricious; bowels constipated and flatulent, or painful and relaxed; there is headache, giddiness, impaired vision, and almost always pain between the shoulders, and below the cartilages of the false ribs. Now succeed swelling of the face and ankles, dyspnœa, palpitation, short hacking cough. Sometimes the uterus sympathizes, and there is menorrhagia or leucorrhœa present. So far all is merely functional and remediable; but if these be allowed to go on, "organic changes in the brain and lungs, and perhaps in the other viscera, are occasionally resulting from undue suckling."

Our limits do not permit us to give more than this imperfect summary of the Doctor's highly-interesting paper; suffice it therefore to say, that he illustrated each of his positions by the narration of a case. The first, that of a woman in whom phthisis appeared to be the direct consequence of protracted lactation. The second that of a lady, who became the subject of mania from the same cause, and which afterwards terminated in recovery; (the Doctor has never seen *permanent mania* arising from suckling.) And third, a case where, in consequence of lengthened and undue lactation, epileptic fits and convulsions supervened, which at length terminated in fifteen months in death. On post-mortem examination, three or four softened tubercular bodies were discovered within the brain, &c. &c. This case Dr. Ashwell had traced from the commencement, and believed that its fatal result was clearly attributable to the nursing.

Mr. Iliff remarked, that all the organic lesions mentioned by Dr. Ashwell might arise from other causes totally unconnected with lactation; on the other hand, lactation was often continued for a remarkably long period without injury: thus, a woman suckled her own child for sixteen months, and then took her sister's for six or eight months longer, with impunity. He could testify to the fact of a woman, fifty years of age, who, at the cessation of the catamenial epoch, being separated from her husband, and having borne no child for twenty-three years, had a full breast of milk. He had mentioned this case to Dr. Blundell, who had told him of another like it. There was also a record of a

negress who had suckled her grandchild.

Dr. Locock said, a still more extraordinary case than any of these was related in obstetric works: it was that of a woman at Ashby-de-la-Zouche, who had continued unceasingly to suckle children till she was seventy years of age. Unimpregnated women had been known to give milk; and in Captain Franklin's voyage to the North Pole, a male was stated to have performed this function.

He coincided with Dr. Ashwell, that time had nothing to do in producing morbid symptoms in nurses, for it was no uncommon thing for a wet-nurse to suckle a child eight or nine months, then go home and hire a younger child, and suckle a second infant in a new situation. He had known this happen a third time, and the third infant was quite as healthy and hearty as the first. Dr. Locock had never known organic disease to originate from over-lactation; he had seen phthisis coexist with it, but not produced by it. Functional mania, however, he had often seen, and he was inclined, with Dr. Gooch, to think there was some peculiar connexion between the brain and uterine system, independent of simple debility, whereby derangements in the latter produced symptoms in the former. This mental derangement was too frequently mistreated by friends, who are apt to recommend amusement and excitement as a diversion for its relief; but this only induces further depression, and aggravates all the symptoms. He had found quiet without excitement, freedom from every care, attention to the general health, tonics, sedatives at night, *no* stimulants, to be the best treatment of this mania. He had not seen organic disease in the brain from lactation. With regard to the lungs, a high authority (Sir James Clarke) was in the habit of advising moderate suckling in delicate women, in whom consumption was apprehended, as a means of diverting the disease, and in many cases under his own knowledge, obvious benefit had resulted. He would ask Dr. Ashwell how far he could undertake to pronounce that organic lesions ever resulted from suckling?

And Mr. Field wished to be informed whether depletory measures were ever advisable, and under what circumstances, in these maniacal affections?

Mr. Hilton also appeared to doubt that organic disease originated in undue lactation.

Dr. Ashwell fully agreed with the greater part of Dr. Locock's observations, which, indeed, were in complete accordance with his own paper; but with regard to Sir James Clark's recommendation, he did not think the case analogous. No doubt, where inflammatory excitement prevails, and pulmonary irritation exists, moderate suckling might operate beneficially as a counter-irritant; but where tubercles existed, he was apprehensive and believed that nursing tended to call these into action, and to soften them prematurely. Pregnancy retarded, but lactation promoted the progress of pulmonary tubercular disease. He would not go so far as to assert that suckling could absolutely generate tubercles and other malignant forms of disease; but where they preexisted, or there was a tendency to their production, suckling too often acted as the immediate existing cause of calling them into active operation. In answer to Mr. Field's inquiry, he said he had never yet met with a case where he had bled: he had occasionally cupped or leeched; but he could imagine that lactation might now and then give rise to symptoms of so active a character as to justify depletion from the arm. He had seen very few cases of puerperal mania that bore bleeding; he had known two such to die; the one was bled lavishly at first, and never rallied; the other was mistaken for phrenitis, and being repeatedly depleted, died. Both in his paper and in his subsequent remarks, Dr. Ashwell drew particular attention to the analogy in the general character and symptoms of the mania arising from over-lactation, and that mental derangement of the lying in state, called puerperal mania, each of which occurred in the same kind of constitution, exhibited analogous features, and required to be treated upon the same general principle of treatment.

Mr. Holdham having understood, from the discussion to night, that the exhaustion produced by lactation was, in points, different from simple debility, would be happy to hear some further remarks in illustration or explanation; and

Mr. Haygarth quoted Andral, who says that lesions of the cerebellum, particularly of the vermiform process, were associated with derangements in the uterine functions.

Dr. Locock had observed, that puerperal mania exhibited a strong analogy to the cerebral symptoms to which he had already referred, as arising from undue lactation; but there was one feature of singularity, viz.—Puerperal mania might exist altogether independent of exhaustion, and without any cause tending to promote exhaustion, whereas the mania of over-lactation never came on until exhaustion had been first induced by suckling; yet there was a resemblance in the general character and nature of the delirium, and both seemed to require similar principles

of treatment. The patient cannot bear to be troubled about trifles, or to be teazed about the simplest arrangements of her daily pursuits; the temper is not morbidly deranged so as to demand either seclusion on the one hand, or excitement on the other; but it exhibits more of the caprice and waywardness of hysteria, and she requires to be kept perfectly relaxed and free from care. His remedial measures are:—1. weaning; 2. change of air and scene; 3. narcotics at night, for undisturbed sleep is of essential importance; 4. mild tonics during the day. The tincture of hops he considers peculiarly efficacious in these cases as a bitter tonic and sedative. As far as his own observation extends, the bowels are usually natural; if otherwise, he does not think this mania is much influenced by it. He does not think the pulse is quickened or excited; it is irritable and excitable, but when at rest it is quiet. When he finds it permanently excited, he apprehends the existence of organic action some where, but prior to and independent of the suckling. He had never seen mania of this kind which did not eventually subside, and had no personal experience of the state of the cerebellum in these maniacal affections. With regard to puerperal fever, too, his experience went to shew that depletion was mischievous, even a few leeches being capable of doing much harm. Purgatives, sedatives, repose of mind, constitute the remedies upon which he relies. In these observatcons of course he did not mean to include ases where phrenitis or other complication existed, where depletion was most clearly indicated.

Mr. Greenwood supposed, that although the symptoms might be the same in puerperal mania, and in mania from undue suckling, yet as the former was independent of exhaustion, and the latter always accompanied by exhaustion, the treatment in the two cases might occasionally be different also. He thought it important in overlactation to attend to the bowels before exhibiting the tonics and sedatives recommended by Dr. Locock. He agreed there was a peculiar sympathy between the brain and the generative functions; and he regretted that the refinements (so called) of society had appeared to exercise so baneful an influence on the sex, that very few women in the higher ranks of life were in a fit state of health or constitution properly to discharge the duty of mothers in nursing their own offspring.

The society's time of adjournment being past, Mr. Chapman and Mr. Iliff proposed a vote of thanks to Dr. Ashwell for his communication, and the meeting separated.

SCHOOL CERTIFICATES.

To the Editor of the Medical Gazette.

Sir,

In your leading article in the Gazette of Saturday, the 24th November, you observe—"at a real school we take it for granted that some method would be adopted, if not of compelling the attendance of students, at least of noting the absent." But, what if such a method is not adopted at any one of the numerous so-called schools, with which London is overstocked? I fear the inference is too just, namely, that there is no real medical school in London. While our medical legislators have been making their calculations as to the maximum and minimum of lectures to be given on certain subjects, it seems never to have occurred to them that it was possible students might be ill taught, or even not taught at all, although 100 lectures had been given. All the laws seem to be stringent upon the teachers; they are to follow a certain prescribed course, without the privilege of the exercise of private judgment, and this course is in no case to be departed from;—100 *lectures*, and *no less!** But, for the students, they have only to procure the certificates as best they can—honestly if possible; but the certificates must be procured; and if only this can be done, it matters not one jot whether the lectures were ever attended or not.

How much more dignified and useful a system would it be if the medical authorities were to recognize certain schools only, such, for instance, as possessed the amplest capabilities for affording instruction, and instead of demanding certificates of having attended this course and that course, simply required that every student should enter at one of these schools, when his education would be under the control and direction of the professors and teachers of that school, who, at the expiration of a certain period, would certify that Mr. —— had spent a number of years at —— school, and was now fit to be examined for the diploma of the College of ——?

But, in my zeal to develope a new scheme, I had almost forgotten the object of my present communication, namely, to inform you that the Professors of King's College have felt most anxious to carry into effect the system of noting the attendance of the students at lectures; they did actually keep up the practice for several years; and they

* Vide Mr. D. W. Harvey's regulations for omnibuses.

yielded to the request of many of their friends, to abandon the practice only because they found it impossible to obtain the support of those public bodies, from whom such a measure might well be expected to have originated. One of these bodies on having been applied to, to assist the efforts of the professors with their sanction and support, expressed themselves as follows:—"They regret that a plan so highly conducive to the regularity and efficiency of the studies at the medical schools as the daily registration of attendances, should be abandoned, but they have the utmost reliance that you will continue to satisfy yourselves of the correctness of your certificates."

It is plain that there is but one mode of ascertaining whether a student really deserves a certificate; *i. e.* has really and *bonâ fide* attended the course of lectures; and that mode is by registering his daily attendance; without some such means it is impossible for the teacher "to satisfy himself of the correctness" of the great majority of the certificates given to the students of a large class. It is evident, from the extract I have given, that the corporate body from whom the letter came, sees this, and entertains a high opinion of the advantages likely to result from it; but they refuse to enforce the system, or to sanction it in any way; and, what is very remarkable, they issued, immediately after they had sent the letter to which I refer, a new form of certificate, which certifies no more than that the student had entered to a certain course of lectures, and which a conscientious person would have no more difficulty in signing for a student who had attended only a single lecture, than for one who had been most diligent throughout the whole session.

It is at least satisfactory to feel that our legislators know what ought to be. We may live in hopes that one day they may become possessed of a sufficiency of moral courage to enable them to carry their present (presumed) good intentions into effect. Were I to offer a suggestion upon the subject, I should recommend simplicity of legislation. Strict laws respecting the admission of persons to become teachers, and the recognition of schools, would leave little more to be desired. Let it be the business of the schools, (the respectability of which would be guaranteed by the rigid enforcement of the laws just mentioned), to prepare the students in the best way they can for the degree or diploma examination. A salutary spirit of emulation will soon spring up among the schools, as soon as they shall have been relieved of the present absurd exactions of the corporate bodies, and when they find themselves protected and encouraged by those bodies.

I remain, sir,
Your obedient servant.

A Professor at King's College,
London.

December 4, 1838.

THE INFLUENZA AT LISBON.

By Dr. Lima Leitao.

In the beginning of February the report spread in Lisbon that the influenza, which had been raging for several weeks in England, was on board several English ships lying at anchor in the Tagus. On the 20th of February the first cases occurred in the hospital, and at the same time the disease showed itself in the town, and attacked whole families. The reporter regrets that he can give no exact meteorological observations, having no instruments; he merely remembers in general, that until the end of December the winter was not severe; but that the first days of January were very cold, and on the 2d it snowed more than it had ever done in the memory of man, so that Lisbon, to the astonishment of its inhabitants, had the look of a town in the north of Europe. From the 10th of January, however, till the end of February, the sun shone warmly, although the wind blew strong and cold. He makes three degrees of the disease:—

First degree.—The usual symptoms of the first attack are followed by a burning in the throat, some hoarseness and dry cough, pain in the anterior part of the head, want of appetite, and thirst. This form of the disease lasted from four to six days, with mild evening exacerbations, the cough becoming moist, and nightly perspiration setting in.

Second degree.—In this form the well-known catarrhal symptoms were all incomparably more severe and obstinate, the cough more violent and more dry, with oppression of the chest and dyspnœa. The symptoms gradually grew milder, and the attack lasted from five to eight days.

Third degree.—The chest symptoms were not so prominent, but there was more affection of the head, amounting in some cases to lethargy. The duration of the disease in this form was the same.

General treatment.—This consisted of warm foot-baths, emollient clysters, and mild sudorifics, such as infusions of elder and poppy flowers; with soothing diet, and orange-water for drink. Only in cases where the oppression of the chest was very great, or the affection of the head and the

somnolence very violent, from ten to thirty ounces of blood were taken away at three times. Too vigorous a treatment with emetics, purgatives, and strong diaphoretics, and unseasonable bleeding, prolonged the disease.—*Zeitschrift für die gesammte Medicin*, for Oct. 1838, from the *Jornal da Sociedade das Sciencias Medicas de Lisboa.*

CARBONIC ACID.

It is a decided fact that carbonic acid is one of the few remedies which are advantageous in all kinds of phthisis, whether mucous, suppurating, or scrofulous, and which improve and lessen the expectoration, and make it easier, while they diminish the hectic fever; nay, this remedy has sometimes even produced a perfect cure. I appeal to my own experience as well as that of others, on the effects of Seltzer and similar simple carbonated waters.—*Hufeland: Praktische Uebersicht der vorzüglichsten Heilquellen Teutschlands.*

CHINESE HOSPITAL.

An hospital has been lately established at Canton, by an American surgeon and missionary, the Rev. P. Parker, for the gratuitous relief of afflicted Chinese. Several important operations have been performed, which have created considerable excitement among the Chinese, whose ignorance of surgery and medicine is said to be extreme. Such an institution may lead to the opening of an extended intercourse with the singular people, of which we as yet know so little.

COLLEGE OF SURGEONS.

GENTLEMEN WHO HAVE RECEIVED THEIR DIPLOMAS.

November, 1838.

T. J. Dyke, Merthyr, Glamorganshire.—C. B. Woods, Parson's Town.—T. Skeel, Norfolk Street, Strand.—J. B. Prowse, Bristol.—C. Nind, Peckham.—R. R. Oke, Southampton.—W. Heise, Ballinasloe.—H. Fagg, Hampton Court.—W. A. Yates, Calcutta.—H. Avery, Monmouth.—H. Venn, Islington.—T. S. Lacy, Guernsey.—E. Howitt, Walworth.—E. M. Macpherson, Inverness.—H. E. Fripp, Bristol.—G. Redford, Worcester.—M. K. O'Shea, Dublin.—W. Pitt, London.—J. R. Ede, R.N.—G. P. Smith, Leeds.—W. E. Chilcote, Brixham, Devonshire,—B. S. Chimmo, Sheerness.—F. Danford, London.—C. Simpson, Stamford.—W. A. Rolfe, Norwich.—F. C. Mallalieu, Fairfield, Manchester.—J. C. Young, Barbadoes.—J. R. Hancorn, Sheerness.—R. W. Nelson, Dublin.—J. G. Hall, Swansea.—W. W. Mitchell, Keighley, Yorkshire.—W. S. Stanley, Dublin.—T. Saunderson, Bala, North Wales.—G. D. Harrison, Welchpool.—W. Prichard, Llandaff.—H. F. Baxter, London.—W. J. Cowper, London.—P. Howell, Brighton.—J. F. Steedman, High Ercall, Salop.—J. D. Bragge, Clifton.—G. D. Hedley, Bedford.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, December 13.

T. Welch, Kidderminster.—H. Harris, Chichester.—W. Parsons, Brighton.—E. M. Dolman, Melbourne, Derbyshire.—W. D. Parsons, Shirldon, Devon.—W. Evans, Bleadon, Somersetshire.—C. F. Robinson.—H. Williams, Denbigh.—G. M. Carrington, Taunton.—J. Hitchman, Fairford, Gloucestershire.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *Dec.* 11, 1838.

Abscess	29	Hooping Cough	88
Age and Debility	261	Inflammation	156
Apoplexy	71	Bowels & Stomach	25
Asthma	183	Brain	9
Cancer	18	Lungs and Pleura	13
Childbirth	22	Influenza	2
Consumption	241	Insanity	83
Constipation of the Bowels	1	Jaundice	1
Convulsions	307	Liver, diseased	20
Croup	31	Measles	67
Dentition	190	Mortification	4
Dropsy	113	Paralysis	11
Dropsy in the Brain	42	Rheumatism	9
Dropsy in the Chest	1	Small-pox	108
Dysentery	2	Stone & Gravel	16
Erysipelas	7	Stricture	1
Fever	121	Thrush	28
Fever, Scarlet	28	Tumor	3
Fever, Typhus	24	Worms	16
Gout	15	Unknown Causes	966
Heart, diseased	22	Casualties	56
Hernia	3		

Increase of Burials, as compared with the preceding week . . . 3030

This being the last weekly bill of mortality which can be included in the general bill of the present year, many of the parish clerks who had omitted to make their returns for a considerable length of time have now forwarded them, in order that they may be included in the general bill; which circumstance will account for the great increase in the burials here stated.

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

December.	THERMOMETER.	BAROMETER.
Thursday . 6	from 33 to 44	30·11 to 30·16
Friday . . 7	30 49	30·10 30·19
Saturday . 8	30·5 43	30·21 30·28
Sunday . . 9	26·5 37	30·28 30·24
Monday . . 10	24·5 41	30·18 30·11
Tuesday . . 11	29 43	30·11 30·22
Wednesday 12	35 44	30 24 30 18

Winds, N. and S.W.

Except the 6th, 8th, and 10th, generally cloudy; rain fell on the morning and afternoon of the 7th.

Rain fallen, ·175 of an inch.

CHARLES HENRY ADAMS.

WILSON & SON, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, DECEMBER 22, 1838.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT OF CALCULUS, AND THE VARIOUS DISORDERS OF THE URINARY SYSTEM.

By Dr. Venables.

On the Chemical Constituents of the Urine, and the modes of demonstrating them.

We now proceed to examine the chemical composition of the urine, and we shall demonstrate the various principles in the order in which we arranged them in the tabular view. It would be quite superfluous to attempt to demonstrate the water. Distillation at a very slightly elevated temperature would be quite sufficient; but as this process even would delay us longer than necessary, it may be shewn in the following manner:—If we exhaust the air from the receiver on the transfer plate of the air-pump, the water of the urine under the receiver, relieved from atmospheric pressure, vapourizes, and is condensed by the sulphuric acid confined with it under the receiver. Hence we shall find at the end of the operation the specific gravity of the acid reduced, its temperature and bulk both increased,—as you see.

The animal principles are urea, lithic acid, lactate of ammonia, and inseparable animal matters. Urea may be obtained by several processes, but not in a state of purity. Dr. Prout, however, obtained it in great purity by the following method:—

Fresh urine is to be evaporated to the consistence of a thickish syrup; to this, when it has cooled, we add gradually pure concentrated *nitric acid*, till the whole becomes a dark-coloured crystallized mass. This we wash with cold distilled water, and suffer it to drain. We next add subcarbonate of potass or soda in solution, till the nitric acid is neutralized. The solution is then to be concentrated by evaporation, and the generated nitre allowed to separate by crystallization. The residual liquor, which is an *impure* solution of urea, is to be mixed with a sufficient quantity of purified animal charcoal to form a thin paste. The paste, after being left for a few hours, is to be treated with distilled water, which will dissolve out the urea. If the solution be filtered, it will pass through colourless. The colourless solution should be evaporated to dryness, at a very gentle heat. Boiling alcohol dissolves out the urea from the dry mass, while it will not touch the nitre or other saline impurities with which it is contaminated. The pure urea may be obtained from the alcoholic solution by evaporation and crystallization. If the crystals should be coloured, they should be redissolved in alcohol, and again crystallized. This is the substance of the process described by Dr. Prout, in the Medico-Chirurgical Transactions, for obtaining pure urea. He thus describes its properties:—

"Urea most commonly assumes the form of a four-sided prism. Its crystals are colourless and transparent, and have a slight pearly lustre. It leaves a sensation of coldness on the tongue, like nitre. Its smell is faint and peculiar, *but not urinous*. It is neither sensibly acid nor alkaline. It undergoes no apparent change on exposure to the air, except in very damp weather, when it slightly deliquesces, but does not seem to be decomposed. Exposed to a strong heat, it melts and is partly decomposed, and partly sublimes apparently unaltered. The specific gravity of its crystals is about 1·350.

"Water at 60° dissolves more than its own weight of urea, and the solution exposed to the air for several months underwent no change." (But if any impurity should be present in the solution it is readily decomposed, and, as Vauquelin has shewn, is converted into *carbonate of ammonia*). "Boiling water dissolves any quantity of it whatever, and the urea does not appear to suffer any change at this temperature. Alcohol (specific gravity ·816), at a mean temperature, dissolves about 20 per cent., and at a boiling temperature more than its own weight; and the urea separates, on cooling, in a crystallized form. It is very sparingly, if at all, soluble in sulphuric ether, or the essential oil of turpentine, though these fluids are rendered opaque by it.

"The pure *fixed alkalies* and alkaline earths *decompose it*, when heat is applied and water present. The result is chiefly *carbonate of ammonia*. It unites with most of the metallic oxides. Its combination with the oxide of silver is greyish, and detonates on being heated, and the oxide is reduced. It does not seem, however, to be alone capable of decomposing any metallic salt; but in order to effect the union, the aid of double affinity is necessary. It combines with nitric acid, and forms a crystallized compound, but sparingly soluble in water, and which has been long known to chemists. It forms also a similar compound with oxalic acid. In neither of these compounds are the acids neutralized."

Here, in this bottle, is a specimen of the crystals of urea prepared as above. You see they are transparent and almost colourless. They have no *urinous* smell, although their odour is somewhat faint, and the taste cooling and saline—perhaps bitter. They form a four-sided prism, as you may more distinctly perceive by the aid of the lens.

With respect to the action of reagents, the most important is that of nitric and oxalic acids, and the fixed alkalies—reagencies of great moment in the history of some forms of urinary disease. If to a solution of urea in water, such as we have in each of these watch glasses, we add concentrated nitric acid or a concentrated solution of oxalic acid, in nearly equal proportion, speedy crystallization ensues;—as you observe to happen. You observe the crystals are of a bright appearance and pearly lustre, somewhat resembling boracic acid. Urea exerts a singular agency upon the crystallization of certain salts. Thus, chloride of sodium assumes the octahedral form; and hydrochlorate of ammonia the cubic. For example, on one of the glasses in this slide I place a drop or two of the solution of chloride of sodium; on the other, a drop or two of hydrochlorate of ammonia. To each I shall now add a few drops of sulution of urea: and I now place the slide in the field of the microscope. If you will now look through the instrument, I draw into your view chloride of sodium naturally crystallized; and you see it is cubical. I now draw in the ceneous crystal of the same salt, and you see the form is octahedral. I next bring into view hydrochlorate of ammonia; and you observe its octahedral form; but you will now see that the form modified by the solution of urea is cubical.

The effect of nitric acid enables us to demonstrate the existence of urea in the urine: for example, if to this sample, which has been reduced by gentle evaporation, I add some nitric acid, you see nitrate of urea crystallizes, not so perfectly colourless as in the former case, but still the proof is equally sufficient.

The effect of the pure alkalies may be proved by heating this solution with the liquor of caustic potass; if you smell, you will find ammonia escaping, and the gas is capable of reddening this moistened turmeric paper if held in the current,—as you see. The effects of the fixed alkalies upon this principle, we shall find of moment in explaining some of the chemical characters of diseased urine, as well as the formation of some urinary concretions.

Lithic acid is an important principle: it may be separated from the urine by the addition of any other acid. You see in this specimen of urine, and which rather abounds in this principle, that the lithic or *uric* acid, as it is sometimes named, has been deposited in the crystallized form. This was effected by a few drops of the muriatic acid. The effects of urine upon the colour of litmus and other vegetable blues, has been attributed to this principle; therefore it will be necessary to examine its properties at some length.

Lithic acid forms a principal portion of some species of urinary calculi, and it is best obtained from these to examine its properties. If a portion of one of these calculi be pulverized and digested in caustic potass, it is dissolved; as you may see in the experiment I have just set in operation. If to the solution which I have filtered, I add hydrochloric acid in excess, a whitish flocculent mass, as you observe, separates, and very slowly subsides. This precipitate, collected and washed, is tolerably pure lithic acid. You see, in this small bottle, a specimen of lithic acid prepared by the above procees. With respect to its properties, you observe it is white or colourless, and has no perceptible taste or smell.

Dr. Henry states, that 1720 parts of

water, at 60°, dissolve one part of lithic acid, and 1150 parts of boiling water, dissolve one of the acid. This, however, appears to be an error on the part of Dr. Henry, for Dr. Prout finds that one part of lithic acid requires six times the quantity stated by Dr. Henry, or upwards of 10,000 parts of water for solution; a circumstance of importance in relation to some of the chemical properties of the urine, as we shall see. It is soluble, however, in the fixed alkalies in excess, and precipitable again by every known acid. Thus, if I pass through this solution of lithic acid in potass a current of carbonic acid gas, the lithic acid will separate, and the solution become turbid, as you observe.

But the most important and characteristic properties of lithic acid, are those resulting from the use of nitric acid upon it. If we pour upon a portion of pure lithic acid, placed in a watch-glass or in a platinum capsule, as here, a little nitric acid diluted with its own bulk of water, on applying heat effervescence commences, as you see, and the lithic acid dissolves. On concentrating this solution by gentle evaporation, transparent colourless crystals may be obtained*. These crystals form a peculiar acid, named *erythric* (ερυθρον) by Brugnatelli, and of which you see a specimen in this tube; and they will form on the evaporation of the solution which we have just effected. On adding ammonia to a concentrated solution of these crystals in boiling water, it acquires a beautiful purple colour, as you perceive, and crystals of *purpurate* of ammonia gradually subside. These crystals, treated with potass and sulphuric acid, afford pure *purpuric* acid. Here you see a specimen of pure purpuric acid prepared by the process just described, and you perceive that it is a yellow-coloured powder. Thus it appears that the lithic is changed by the action of nitric acid into *erythric* acid, and this again by ammonia into the *purpuric*.

With respect to the mode in which lithic acid exists in the urine, Berzelius states, that by the laws of chemical affinity, the stronger acids will saturate themselves with the alkaline principles existing in the urine, to the total exclusion of the weaker, which will be liberated. Therefore if there be not sufficient quantity of alkaline matter in the urine to saturate all the acids, the weakest will remain uncombined; and which, in the present case, would be the *lactic* and the *lithic*; and, indeed, the same eminent chemist attributes the acidulous reagency of healthy urine upon litmus paper, to the action of these acids existing in urine, in their free or uncombined state. Dr. Prout, however, objects to this conclusion, and I think very successfully. "On reflecting upon this opinion, however," he observes, "it seems to me very improbable, for the following reasons:—first, according to the analysis of Berzelius, 1000 parts of healthy urine contain in solution one part of lithic acid; but Dr. Henry states, that one part of lithic requires, at 60°, at least 1720 parts of water to dissolve it. Now how are we to reconcile these two statements, on the supposition that lithic acid exists in the urine in a free state? Secondly, the addition of any acid to the urine, even the *carbonic*, as is well known," and as yourselves have already witnessed, "throws down the lithic acid. How is it possible to explain this fact, except on the supposition that the new acid combines with something retaining the lithic acid in solution, which, being set at liberty, is thus incapable of remaining any longer in solution, and is consequently precipitated in the solid form? Thirdly, there is no instance known in which lithic acid is secreted in a free state; birds, serpents, &c. always secrete it in combination with ammonia; in the gouty chalk stone it is secreted in combination with soda. To suppose, therefore, that the human kidney secretes lithic acid in a free state, is to suppose an exception to a law which appears to be very general. Lastly, the lithate of ammonia often does exist in large proportions in human urine, as is proved by the fact that many of the amorphous sediments consist chiefly of that compound, as will be shewn hereafter. On reflecting upon these circumstances, I was induced to make some experiments on the subject; the result of which has been such as to render it probable that the *lithic* acid in healthy urine exists in a state of *combination with ammonia*, and that in reality this fluid contains *no uncombined acid* at all."

In confirmation of these views, Dr. Prout further urges, that the lithic acid, when in the free state, is insoluble in the proportion of water existing in the urine. Berzelius states that 1000 parts of urine yield one part of lithic acid. Now, 1000 parts of urine contain only 933 parts of water. Henry states that one part of lithic acid requires 1750 parts of water at 60°, and 1150 of boiling water; consequently 1000 parts of urine could not, under any circumstances, hold one part of *free* lithic acid in solution. But it may be still further added, that lithic acid in its uncombined state requires upwards of 10,000 parts of water for its solution; and therefore there can be little doubt that this

* This is to be understood only of the hydrated crystals combined with a large proportion of water of crystallization, and perfectly free from nitric acid. If the evaporation be hasty, and such as to expel the water, they become of a crimson red, or carmine colour, whence the name "*erytheric*," a derivation from the Greek for *red*.

acid exists, naturally, in the form of a *lithate*, viz. lithate of ammonia, a salt which, according to Prout, requires only about 480 parts of water at 60° for its solution. You here have an opportunity of observing the comparative solubilities of lithic acid and lithate of ammonia.

I have introduced into each of these two flasks 550 grains of distilled water, the temperature of which, as you observe by the thermometer, is between 62 and 63. Into the one I introduce a grain of lithic acid; into this an equal quantity of lithic acid as a lithate of ammonia; and you will perceive that the salt dissolves, while a considerable portion of the acid remains wholly insoluble, notwithstanding the temperature be considerably raised by the application of the spirit lamp. If to a portion of the solution of lithate of ammonia I add any other acid—even a current of carbonic acid gas will answer—the solution becomes turbid, and the lithic acid, as you see, is precipitated.

Lithate of ammonia, also, it is found, reddens litmus paper, as you observe in this example. The action certainly is very feeble, but still sufficiently evident to verify the assertion. Lastly, Dr. Prout asserts that lithate of ammonia can exist, without decomposition, in solution with superphosphate of ammonia. Now, superphosphate of ammonia, when in solution, reddens litmus paper, as you observe in the present case; and you further see that on mixing the two solutions, superphosphate and lithate of ammonia, there is no turbidity nor disturbance even after standing a considerable time. Superphosphate of ammonia unquestionably exists in the urine, and hence we can have no difficulty in explaining the *acidulous* re-agency of natural urine, without asserting the chemical inconsistency of the existence of free lithic acid in solution in the urine.

That lithate of ammonia—*i. e.* lithic acid in combination with ammonia—may be readily proved. If urine be slowly evaporated, the lithate of ammonia is deposited as an *amorphous* sediment; whereas uncombined lithic acid generally assumes the crystallized form. The best method of demonstrating this fact is to place a portion of urine under the receiver of the air-pump with sulphuric acid. On exhausting the receiver, the watery portion, relieved from atmospheric pressure, rises in a vapour, and is rapidly absorbed and condensed by the sulphuric acid; and the lithate of ammonia is abundantly deposited as an amorphous sediment on the sides of the glass—an instance of which you see in the example handed round. Thus have I endeavoured to explain to you the true nature and cause of the acidulous re-agency of healthy urine; to point out the inconsistencies and errors of the usually adopted opinions; and to satisfy you that lithic acid does not exist in the urine in a free state, but as a salt, combined with a base, and which base is ammonia.

In reference to the subject we have just been discussing, namely, the cause of the acidity of the urine, or, in other words, the free or combined state of the uric acid, it should be stated that some eminent chemists and physiologists differ from Dr. Prout upon this question, and, in fact, maintain a directly contrary opinion, and that the lithic is *free* or uncombined with any base. It has been urged that in certain conditions of the system—for instance, a febrile or phlogistic diathesis—the urine deposits more lithic acid than even boiling water is, under ordinary circumstances, capable of dissolving. But it should be considered that in such cases the lithic acid is combined with ammonia, and that lithate of ammonia is soluble at the ordinary temperature of the urine, about 92° Fah., when passed, but insoluble at the temperature of the atmosphere, and therefore deposited as the urine cools. If the urine be heated to the temperature at which it is when passed, the salt redissolves, as you observe in the specimen which I now heat over the spirit-lamp. You see that although at first it becomes warm it becomes clear and transparent, owing to the solution of the salt—a solution which, as you have already seen, pure lithic will not undergo. You likewise see the amorphous character of lithate of ammonia, an appearance which this salt always assumes on separating from its solvent. But pure lithic acid assumes a crystalline appearance. Here you will have an opportunity of contrasting these two characters. If we heat a portion of this turbid urine till it becomes transparent, and if to this we add a little hydrochloric or acetic acid, so as to saturate the ammonia, and set the lithic acid free, you will see that in the first case an amorphous sediment subsides; but in the second, a deposit of a crystalline appearance settles on the side of the glass. The difference in appearance will be more clearly apprcciated by such of you as will observe the two as I bring them in succession in their dried state into the field of this microscope. Hence, I think, we may fairly conclude that the urine, in its healthy or natural condition, really contains no free or uncombined acid, and that the effect of any free acid would be attended with the deposition of the lithic acid in the crystalline form; and we should also recollect that there is a material difference, both chemically and in effect, between a free or uncombined acid and one combined even in excess, as in the case of a bi- or super-salt.

Lactic acid, according to Berzelius,

exists in the urine. It is, however, best obtained from sour whey. If we evaporate whey to about one-eighth, and filter, on adding lime-water an earthy precipitate is obtained. It is again filtered, and on cautiously adding a solution of oxalic acid the lime is precipitated, and the lactic, now free, remains in solution. This solution is to be evaporated to the consistence of honey, and then treated with alcohol: the lactic acid passes through the filter dissolved in the alcohol, while the sugar and other principles remain behind. To the filtered portion a little is to be added, and the whole distilled, on which the alcohol passes over, leaving the lactic acid in solution in the water.

Lactic acid thus obtained, of which you here see a small portion, is of a somewhat brownish yellow colour, uncrystallizable, attracts moisture from the air, and forms, with the alkalies and earths, soluble and deliquescent salts. Its properties so closely resemble those of acetic acid, that many have considered it as merely a modified condition of this latter. As all its salts are soluble, and being a very weak acid, it is of little moment in the particular inquiries in which we are now engaged.

Sulphuric acid is easily detected by adding a solution of nitrate of baryta with a considerable excess of *nitric acid:* a precipitate, as you see, falls, which can be no other than sulphate of baryta, because the excess, or, in other words, the free nitric acid, would hold all the other barytic salts—for instance, the phosphate, &c.—in solution. But by filtering and collecting the precipitate formed in this instance, heating it in the blow-pipe flame or charcoal, it is reduced—the sulphuric acid to sulphur, and the baryta to barium—and a sulphuret of barium remains. On treating this with any diluted acid—the hydrochloric, for example—sulphuretted hydrogen is evolved, known as well by its smell as by blackening paper moistened in a solution of lead, which you observe to happen.

Phosphoric acid may be shewn by several processes, although this acid is not so easily detected as several others. If, however, we add to urine a little potass, the alkali will neutralize the excess of phosphoric acid, which holds the phosphate of lime in solution, and a white precipitate is thrown, which consists of insoluble phosphate of lime. This precipitate, collected and heated before the blow-pipe, first blackens, and then becomes white, generally resisting all further action. It readily dissolves in hydrochloric acid, and is precipitable again by any alkali which will neutralize the free acid, as you perceive. These are precisely the characters which distinguish phosphate of lime.

But perhaps the readiest and most satisfactory method of demonstrating the phosphoric acid, is to add to a portion of urine some soluble salt of lead—the nitrate or acetate: phosphate of lead precipitates, as you observe in the present case. The precipitate should be washed in a solution of carbonate of potass or soda, then with diluted acetic acid, and lastly with boiling distilled water. The precipitate thus purified, is suspended in distilled water, and a current of hydrosulphuric acid gas passed through the mixture, till a black matter ceases to be disengaged. The fluid which contains *free* phosphoric acid in solution is to be filtered, to separate the sulphuret of lead, and then boiled, to expel the excess of sulphuretted hydrogen. The acidulous solution of phosphoric acid is next neutralized by carbonate of potass or soda. On adding nitrate of silver, a yellow precipitate is immediately formed, which is phosphate of silver, and characteristic of the phosphoric acid, no other acid, with the exception of the arsenious, producing a similar precipitate*; and there is no probability of error from the presence of arsenious acid. But even this source of error may be guarded against. I here have arsenite and phosphate of silver; to determine them I introduce a portion of each into separate tubes, and cover them with a little charcoal; on heating one in the flame of the spirit-lamp, no sensible effect is produced; but on heating the other, metallic arsenic sublimes, and coats the tube characteristically, as you see.

The theory of the above is, that the phosphates in the urine are decomposed by the salt of lead, phosphate of lead—a most insoluble salt—being formed and precipitating. The washing it with diluted acetic acid, then with carbonate of potass, and lastly with boiling distilled water, frees the phosphate of lead from most of its impurities. When the phosphate, suspended in distilled water, is subjected to a current of hydrosulphuric acid gas, decomposition takes place; the oxygen of the metallic oxide of the phosphate combines with the hydrogen of the acid gas, and water is formed, while the lead and sulphur, set free and combining at the moment of their liberation, sulphuret of lead is formed, which precipitates, and the phosphoric acid, liberated from its saline combination, remains dissolved in the water, and is separated by filtration. It is useful to boil, or concentrate by evaporation, by which some condensed hydro-

* The demonstration by this method was successfully practised within the requisite time.

sulphuric acid gas is got rid of, and which, by acting on the nitrate of silver, might obscure the result. Thus I trust we have satisfactorily demonstrated the existence of phosphoric acid in the urine.

The phosphoric acid, according to the analysis of Berzelius, exists, like all the other acids, in combination with the alkalies, especially soda and ammonia; but there is also found a portion of phosphate of lime, and even of magnesia. Now, phosphate of lime—at least, neutral phosphate—is insoluble unless in some strong acid, as the nitric or hydrochloric, as we have already seen, or in excess of its own acid—the phosphoric acid. Therefore the phosphate of lime must exist as a superphosphate—a salt capable of reddening litmus paper, as you shall now see. Phosphate of lime, it is true, is soluble in a large proportion of ammoniacal salts, more especially hydrochlorate of ammonia; but the proportion of hydrochlorate of ammonia is by far too trifling to produce any such effect; and were this the cause of the solution of the earthy phosphate, we should not have this last precipitate on the addition of an alkali, as you have already seen to happen; the alkali acting solely by neutralizing the excess of phosphoric acid, and thus liberating the phosphate from the solvent power of the excess of phosphoric acid.

Hydrochloric (muriatic) acid.—This acid is readily shewn by adding to urine some nitrate or acetate of silver; a white precipitate, as you see, falls down. This is chloride of silver; the identity of which we demonstrate as follows:—It is soluble in ammonia, from which it is again precipitated by acetic or nitric acid, and the precipitate is not soluble in excess of nitric acid. On exposure to light, especially strong sunshine, the white precipitate becomes dark, as you observe, owing to the partial reduction and oxidation of the silver. Likewise when heated, the chloride fuses; and on cooling, becomes a soft semitranslucent mass, formerly named "luna cornea," or horn-silver, which you may here observe, and so soft that it may be cut with a knife. All these properties characterize hydrochloric acid, free or combined, and consequently in the present case demonstrate its existence in the urine.

Hydrochloric acid exists in combination with ammonia; but the combination with soda, we must suppose, in conformity with the most recent views, to be *chloride of sodium*. Therefore, when the nitrate of silver and chloride of sodium react upon each other, the oxygen of the silver passes to the sodium, converting it into soda, which, uniting with the nitric acid, forms nitrate of soda, while the chlorine combines with the silver and forms chloride of silver. But in the case of the hydrochlorate of ammonia, the reaction is somewhat different. The oxygen of the silver in the nitrate passes to the hydrogen of the hydrochloric acid in the hydrochlorate, and water is formed, while the silver and chlorine liberated, meeting in their nascent state, immediately unite and form chloride of silver; the nitric acid and ammonia combine, and form nitrate of ammonia.

CLINICAL LECTURES ON MEDICINE,

Delivered at the Meath Hospital, Dublin,

Session 1837-8,

By Professor Graves.

Lecture VI.

Gonorrhœa—Injections, combined with general and local Antiphlogistic Means—Gonorrhœal Rheumatism and Ophthalmia—Postscript.

Gentlemen,—In the remarks I have hitherto made on gonorrhœa, I have merely sought to elucidate its general pathology and treatment, and, accordingly, have avoided all details connected with complicated cases, where the disease does not occur in its simple form in a constitution and urethra previously sound.

Where strictures, and previous diseases of the urethra, bladder, or prostate, exist, the simple treatment I have recommended is no longer applicable; and the same observation applies to cases badly treated, neglected, or of long standing, and to patients with a weak or scrofulous constitution.

At our last meeting we spoke of the mode of using injections: to-day I shall add a few particulars concerning their strength. We should trust in the beginning to weak solutions, such as one or two grains of sulphate of zinc to the ounce of water: but they may be used five or six times in the day. When we increase their strength they must be employed less frequently. It is seldom necessary to use a solution stronger than three grains to the ounce. I am in the habit of employing such a solution combined with one or two drachms of mucilage, and about ten grains of prepared Lapis calaminaris in powder; the mucilage veils the astringent and irritating qualities of the metallic salt, and renders it more likely to become entangled and be detained in the urethra. How the Lapis calaminaris acts, unless on a mechanical principle, it is difficult to explain; but of its utility I am certain, having long used this combination, as recommended in Thomas's Practice of Physic. Some add a little balsam of co-

paiba; but it has the disadvantage of betraying the patient's secret by its odour.

As I am now only engaged in explaining the general principles on which the cure is to be conducted, I need not enumerate the great variety of astringents which may be employed. One important piece of advice I can give you on this point is, to confine yourselves, as far as possible, to the use of the same astringents. Two or three will suffice for all necessary combinations. By doing this, you will become accustomed to their effects, and will, by habit, be enabled with great accuracy to judge whether it is proper to increase or diminish the strength of the solution in any particular case.

Another rule of practice is, that you must make the patient leave off injecting at intervals, say every second day, for a certain number of hours, for instance twelve, before you examine him, in order that the immediate effects of the astringent may have subsided so far as to allow you to estimate the actual state of the disease. It often happens that the improvement is scarcely perceptible, until the injections have been intermitted. This observation leads to another rule, viz. that when you are using strong injections, and have made an evident impression on the disease, you may leave them off every second or third day, according to circumstances, so as to insure their not being continued beyond the time they are actually necessary. With these precautions, I can confidently recommend the use of injections, and maintain that they do not render the patient more than usually liable to strictures, sympathetic bubo, or swelled testicle.

Strictures often occur in men who have never had a gonorrhœa, and swelled testicle and sympathetic buboes are frequently met with in cases of clap, where injections have not been used at all. I do not mean to deny that injections, imprudently or unskilfully managed, may give rise to these accidents. Of this there can be no doubt, nor is the cause very obscure; for we can readily conceive that an injection, ill adapted to the sensibility of the parts, may increase the urethral inflammation. Of all matters recommended for injections, the nitrate of silver seems most liable to this objection.

When gonorrhœa degenerates into gleet, which it is most apt to do in badly treated cases, and particularly in scrofulous habits, the cure is uncertain and troublesome; but as I have nothing to add to the practical precepts which your class-books contain on the subject, I shall not detain you by any further observations.

With respect to the gonorrhœal virus, I entirely concur in the modern opinion, recently confirmed by the experiments and inoculations performed by Ricord, that the poison which causes clap is different from that which gives rise to chancre, and secondary symptoms; and that, consequently, it is quite unnecessary to make use of mercury in order to guard against constitutional sequelæ.

It is well that practical men have at length made up their minds upon this subject. Twenty years ago, when I commenced practice, we often concluded the cure of a gonorrhœa by a fortnight's course of morning and evening inunctions, employed for the purpose of protecting the patient against the danger of secondary symptoms.

Ricord employs injections of zinc or lead, or nitrate of silver, in gonorrhœa, as soon as the acute stage has been removed, or its violence diminished by rest, antiphlogistic regimen, and twenty or thirty leeches to the perinæum. He seems to employ the astringent injections generally after three or four days of antiphlogistic treatment, or from the very beginning, where the inflammation is slight. My experience has amply confirmed the assertions of our predecessors, who wrote many years ago, that the same astringent applications which are proper after the diminution of the urethral inflammation, are also proper before it has completely formed itself. I should not have entered so largely on this subject, was I not aware that many practitioners condemn the use of injections altogether, and trust to rest and antiphlogistic measures alone—a method of treatment not only tedious, but in many respects most injurious.

It may be well to remark, that for many years I have not, *in recent and uncomplicated cases*, ordered cubebs, copaiba, or any such medicines internally, having succeeded to my entire satisfaction in the treatment of gonorrhœal patients by means of *general and local antiphologistic measures combined with injections*. I differ in one point, and one only, from Ricord, who always begins by employing the anti-inflammatory diet and treatment. I have no objection to his method, except the inconvenience to which it necessarily puts the patient: for the loss of a few days, and confinement to his room, would, in ordinary diseases, be of trifling consequences; but in cases like the present the patient is always most anxious to avoid measures which could not be adopted without exciting suspicion.

To such an anxiety I would never yield, when my so doing could in the slightest degree retard or compromise the safe and speedy cure of the disease, neither of which risks are incurred by the prudent application of the plan I have recommended for the treatment of nascent gonorrhœa, and which is sanctioned by older writers, although re-

pudiated and censured by the modern antiphlogistic school.

There are two affections said to be connected with gonorrhœa, and which consequently demand some consideration. I mean ophthalmia and arthritic rheumatism. There are many and highly respectable authorities in favour of the existence of such a disease as gonorrhœal rheumatism. Bacot says that the most usual form consists in a painful and swollen state of the knees and ankles, which seldom comes on until the decline of the gonorrhœa, and is most commonly met with in young men of a florid complexion and a delicate strumous habit; the articular affection is sometimes suddenly relieved by the appearance of an eruption of papulæ in clusters, or of pustules in very minute patches.

Vetch describes this form of rheumatism as most intractable; I must refer you to his work and Bacot's for an account of the proper treatment, as I have not myself had sufficient experience in the disease to enable me to speak decidedly on the subject. Very lately I saw with Doctor Nalty, of Clare Street, a gentleman about 35 years of age, who was afflicted with his fourth gonorrhœa, and in whom the order of symptoms was very remarkable and deserving of notice. In him each gonorrhœa ran the usual course until the period when the running and urethral inflammation began to decline; then invariably (and that each of the four times he was attacked) his eyes became very painful, red, watery, and intolerant of light, presenting at first all the appearance of simple acute conjunctivitis the result of cold. The conjunctiva covering the sclerotic soon became very much affected, but exhibited no tendency to secrete pus or become swollen, so as to form chemosis. In these important particulars the inflammation manifestly differed from the purulent form. In a few days the sclerotic, and afterwards the internal tissues of the eye-ball, were inflamed, and vision thus seriously impaired for the time. It does not, however, appear that the pupil was ever disfigured or the iris engaged, so far at least as concerns its margin and anterior surface. The redness of the eye-ball was diffused and general, and not restricted, as in some cases of true internal syphilitic ophthalmia, to a zone at some distance from the cornea. This ophthalmia required very active local depletion, and yielded to treatment with much difficulty.

At our second visit we found that a very minute ulcer had formed on the cornea. The measures advised consisted of colchicum internally, slight scarifications of the inner surface of the lower eyelid, and on the next day a drop of the solution of nitrate of silver, four grains to the ounce, to be applied to the eye itself.

It is to be particularly remarked, that during the increase and acmé of the ophthalmia, the urethral discharge was always lessened, but by no means cured; and if at any time this discharge increased, an immediate diminution of the violence of the ophthalmia ensued. On this point our patient was quite clear. So far, then, respecting the ophthalmia; let us now follow the further development and succession of symptoms.

Invariably after the ophthalmia had lasted for some days' one or other of his joints became affected with very acute inflammation, and when this was about to subside in the joint first attacked, a new inflammation was set up in some other joint; thus the knees, ankles, elbows, &c. became successively and violently engaged, each in its turn being red, tender, painful, hot, and refusing to allow its ordinary motions. The arthritic inflammation was sometimes so violent as to leave an impairment of motion and a stiffness of the joint, which continued for months after he had otherwise perfectly recovered. When I saw him he had sciatica of the left leg, as well as the usual arthritis.

This case, gentlemen, is very instructive, and proves beyond a doubt the existence of an arthritis and an ophthalmia, the consequence of a gonorrhœa: as the ophthalmia had all the characters of rheumatic ophthalmia, we must attribute its origin to an impression made on the constitution by the gonorrhœa; here, as the articular inflammation and the ophthalmia had one and the same character, and as the affection of the joints could not of course be produced by contact of the urethral dischsrge, we must admit that this could also have nothing to do with causing the inflammation of the eye. This is important, and demonstrates that at least one species of ophthalmia is caused by gonorrhœa independent of direct infection. The existence of sciatica is also very remarkable.

Mr. Crampton, who afterwards saw this case in consultation, says that he has met with several similar, and he is of opinion, that some of them essentially consisted in a gouty inflammation of the eye and joints, excited and called into action by the gonorrhœa.

Sir Astley Cooper—the greatest of British surgeons—says, that gonorrhœal rheumatism is not an infrequent disease. He describes a case very similar in details to that I have already laid before you:—"I will give you," says Sir Astley, "the history of the first case I ever met with; it made a strong impression on my mind. An American gentleman came to me with a gonorrhœa, and after he had told me his story, I smiled and said—do so and so—

(particularizing the treatment), and that he would soon be better; but the gentleman stopped me, and said, "Not so fast, sir; a gonorrhœa with me is not to be made so light of—it is no trifle; for in a short time you will find me with inflammation in the eyes, and in a few days after I shall have rheumatism in the joints; I do not say this from the experience of one gonorrhœa only, but from that of two, and on each occasion I was affected in the same manner." I begged him to be careful to prevent any gonorrhœal matter coming into contact with the eyes, which he said he would. Three days after this I called on him, and he said, "Now you may observe what I told you a day or two ago is true." He had a green shade on, and he had ophthalmia in each eye; I desired him to keep in a dark room, to take active aperients, and apply leeches to the temples. In three days more he sent for me rather earlier than usual for a pain in one of his knees; it was stiff and inflamed; I ordered some applications, and soon after the other knee became affected in a similar manner. The ophthalmia was with great difficulty cured, and the rheumatism continued many weeks afterwards. This case struck me very forcibly, and I asked Mr. Cline whether he had ever seen the rheumatism proceeding from gonorrhœa, and he replied, several times. The next case did not surprise me so much, and now and then, ever since, I have met with similar ones. It is by no means an unfrequent occurrence for gonorrhœa to produce a rheumatic and painful affection of the joints; whether it be by the absorption of the poison, or the constant irritation produced by the irritation of the urethra, I do not know, but certain it is that gonorrhœa produced ophthalmia and rheumatism, and that when not a single drop of matter has been applied to the eye. The inflammation generally attacks both eyes, and is of long duration; it requires the same remedies as are used in gonorrhœa; balsam of copaiba or some form of turpentine, must be exhibited; either the spirit of turpentine, balsam of copaiba or olibanum. I do not recollect to have met with a description of it in any surgical work, but whoever has practised at all must have frequently met with it."

Such, gentlemen, is the information which this celebrated man has given us on this subject. From this it is quite clear that he does not define or point out the different species of gonorrhœal ophthalmia and their different exciting causes; neither is his description of the American's sore eye very full and explicit; it is enough so, however, to prove that his ophthalmia was not purulent, but arthritic.

It does not seem necessary to assume the absorption of any poison to account for arthritis and ophthalmia occurring in gonorrhœa. Of all parts of the body the joints are most liable to be associated in inflammation with distant parts, and hence ordinary arthritis so often gives rise to pericarditis, hepatitis, ophthalmia, &c. &c. We do not think it necessary to assume the absorption of poison when a urethral stricture occasions ague—an occurrence quite as remarkable as the production of arthritis by gonorrhœal irritation of the urethra.

When any important part of the body becomes inflamed, there is no saying in what organ diseased action may commence as a consequence. Thus I have seen an inflamed state of the œsophagus, caused by a clumsy probang roughly passed, give rise to inflammation of the mucous membrane of the bladder.

When Sir Astley Cooper published his Lectures in 1823, the subject of gonorrhœal ophthalmia had not received the attention its importance merits, and the opinions of surgeons were very varied and contradictory, of which I can offer no stronger example than the fact, that in a part of that very course of lectures, Mr. Green, who lectured for a time during Sir Astley's absence, expressed himself in a manner quite opposed to the opinion of Sir Astley, who had said that gonorrhœa is capable of producing an ophthalmia through the medium of the constitution. In fact, gentlemen, nothing satisfactory was published on gonorrhœal ophthalmia until Mr. Lawrence's Treatise on the Venereal Diseases of the Eye appeared in 1830, of which work 127 pages are occupied with a description of the three different species of gonorrhœal ophthalmia, with numerous cases.

This distinguished surgeon and physiologist has done more than all who preceded him to illustrate his subject, and I most cordially recommend to your attention the above invaluable treatise. He denies (and in this I agree with him) the assertion, hereafter to be noticed, that the matter from a gonorrhœal urethra cannot by contact produce disease in the eyes of the patient himself, and he brings forward many examples to prove the contrary. He divides the disease into three species:—1st, acute or purulent and destructive gonorrhœal inflammation of the conjunctiva; 2d, mild gonorrhœal inflammation of the conjunctiva; 3d, gonorrhœal inflammation of the external tunics and iris.

It is of importance to recollect that this latter species does not exactly deserve the name of metastatic, for it often comes on without any, or, at least, a very partial subsidence or diminution of the urethral discharge.

Some authors, as Scarpa, Boyer, Pearson,

and Beer, deny the possibility of a severe purulent ophthalmia being caused by the contact of any gonorrhœal fluid, and assert that its application to the eye merely gives rise to a trifling and temporary irritation. More recent writers do not, however, acquiesce in this opinion. Thus, Mr. Middlemore sums up the matter with the two following conclusions:—"1st. That by far its most usual mode of production is by the contact of gonorrhœal matter, proceeding from the urethra or vagina of some other person, not from that of the individual himself. 2d. That it is extremely improbable that any individual can communicate the disease from his urethra to his conjunctiva, by touching the latter membrane with the gonorrhœal discharge."

Were this latter position established on a secure and firm basis, I would regard it as one of the most interesting and curious results of modern investigation. I must, however, confess, gentlemen, that I feel very doubtful of its accuracy, and that for the following reasons:—In the first place, I have seen a case where a gentleman was most probably infected with purulent ophthalmia, in consequence of matter from his own urethra being brought into contact with his eye. I say most probably, for the nature of the case almost necessarily precludes the attainment of certainty with regard to such matters, for very obvious reasons. In the second place, Ricord's experiments proving the facility with which a chancre can be produced in any part of the skin by means of matter taken from a chancre in the same individual—these experiments, I say, throw a heavy shade of doubt on the probability of the general doctrine, that an infectious fluid produced by one part is innoxious to the same person in other parts.

The poison of itch manufactured by one part of the skin is often transferred by the nails to another part, and the clothes worn by an itchy patient are capable of not only producing the disease in another, but in himself when cured. Many other similar examples might be brought forward, but enough has been said to shew that the general analogy is not favourable to an opinion which I cannot help thinking has been founded on facts and experiments not sufficiently numerous or varied. Dr. Vetch, indeed, "took matter from the eyes of persons labouring under acute purulent ophthalmia, and applied it in each case to the urethra of the same individual. No disease was excited. But when he applied the same matter to the urethra of a different individual, it produced a violent gonorrhœa; hence he argues that a person cannot infect himself, but may another."

You observe, gentlemen, that this is preeminently a practical question; for if we agree in Dr. Vetch's conclusion, it is quite needless to impress on our gonorrhœal patients the necessity of scrupulously guarding against the danger of infecting their eyes by the matter secreted by their urethras. Where the danger is so great, and where, should such an infection be possible, the loss of one or both eyes may be the result, I would never trust to mere habits of cleanliness; I would enforce them by the fears of infection.

With respect to the production of a violent and destructive purulent ophthalmia, in consequence of the application of gonorrhœal matter to the eye, there can be no doubt whatsoever. Mr. Lawrence cites many examples, and I have seen several. Thus, some years ago, a poor woman made use of a vessel soiled by gonorrhœal matter, to wash her own face and two of her young children. They all got purulent ophthalmia, and two left this hospital blind. On the whole, gentlemen, I think that we can very safely draw the following conclusions concerning gonorrhœal ophthalmia:—

1st. A species of severe ophthalmia may be produced through the medium of the constitution, in persons liable to gonorrhœal rheumatism or arthritis. This species attacks the conjunctiva, sclerotica, and internal tissues, and resembles gouty and rheumatic ophthalmia.

2d. Another dreadfully violent species of ophthalmia is produced by the contact of gonorrhœal pus. This closely resembles Egyptian ophthalmia.

3d. It is probable that another and a much milder species of conjunctivitis is produced by the contact of gonorrhœal discharge of less virulence; and such was the opinion of the celebrated Beer. The fluid taken from the variolous pustule or the vaccine vesicle during their early stages will not communicate their proper infection; in the same way the discharge from an incipient or declining gonorrhœa may act very differently on the eye from the puriform fluid secreted by the urethra during the acmé. The only doubt which remains on my mind with respect to this milder conjunctivitis is, whether it, too, may not be produced through the constitution. We have seen that a violent ophthalmia and arthritis may thus arise, and consequently we can easily imagine it possible for the same cause to give rise to a constitutional impression capable of originating a mild ophthalmia unaccompanied by arthritis.

In the gentleman whose remarkable case I have related, and who was once treated for the ophthalmia by Mr. Wardrop, the very first gonorrhœa he had ended in the formation of bad deep-seated stricture, although the plan of cure adopted had been from the beginning antiphlogistic, and he had been confined to bed for the greater part of

the time, and kept on low diet, on account of the arthritis. This, with numberless other similar facts, proves that the chances of stricture are augmented by whatever prolongs the duration of the urethral disease, particularly in strumous habits, such as was that of the gentleman referred to. No doubt, injections injudiciously applied, may increase or prolong urethral disease, and thus occasion strictures; but if they diminish or cut short inflammation, I cannot conceive on what principle they can originate strictures.

Postscript.—Since the preceding remarks on purulent ophthalmia were prepared for the press, I have conversed with Mr. Staunton, who accompanied Colonel Chesney in the celebrated expedition to the Euphrates: Mr. Staunton says that in Egypt acetate of lead, under the name of *English sugar*, is in great request for making eye water. The late essay, by Mr. Tyrrell, on a peculiar operation successfully employed by him to prevent destruction of the cornea in violent purulent ophthalmia, is of the greatest importance, and well worthy of attention, for it must be confessed that hitherto, when intense, this disease has baffled every effort of art, unless it happened to be placed under treatment within a few hours from its first appearance—a very rare occurence indeed. A remarkable confirmation of the *rationale* of Mr. Tyrrell's operation may be found in a paper, published by Mr. Griffiths, in the Calcutta Medical Transactions, on a similar mode of operation resorted to by the modern Persians in chronic opacity of the cornea.

Having mentioned the discoveries of Ricord in the preceding lecture, I think myself bound in justice to the character of the late Mr. Wallace, of Dublin, to state that the latter gentleman has claimed all or nearly all Ricord's alleged discoveries. Mr. Wallace published in the London Medical Journal for November 16th, 1833, a paper entitled "The Discoveries of Doctor Ricord, of the Hôpital des Vénériens of Paris, respecting the Venereal Disease, claimed by William Wallace," &c. &c.

In this paper Mr. Wallace goes *seriatim* through the whole list of Ricord's discoveries, and proves that he had anticipated Ricord in all and each. As the question is one of great importance it would be well to investigate the matter a little more closely; this I have not time to do myself, but to facilitate the matter to others, I send Mr. Wallace's reclamation, which the Editor of the Medical Gazette may perhaps judge it right to publish on a future occasion, with remarks on the subject.

The application of escharotics to the eye in purulent ophthalmia was first introduced into practice by my late esteemed friend, surgeon Melin, in Malta, in 1811. The same plan was afterwards most extensively tried by Dr. O'Halloran at Gibraltar—both wrote of this plan long before it obtained the advocacy for Mr. Guthrie, whose reputation soon brought it into general use. In Dr. O'Halloran's work published in 1824, he makes the following observations:—"A solution of lunar caustic of ten grains to an ounce of water, is an excellent remedy in purulent ophthalmia. It may be used at all periods, and, next to the bluestone, claims precedence over all others. Its action, when resorted to at an early period, tends to change and lessen the discharge, and to remove the pain and irritability without causing any of the unpleasant symptoms which have been attributed to its use."

FRACTURE OF THE BONES OF THE CRANIUM.

NEGATIVE TREATMENT—RECOVERY.

To the Editor of the Medical Gazette.

Sir,

As I am not aware of the negative plan of treatment having been almost solely depended upon in the management of so serious an injury as that which I am about to relate, I shall be much obliged by your giving it a place in your very useful publication.—I am, sir,

Your obedient servant,

R. Jones,
Surgeon to the Leamington Hospital.

Leamington, Dec. 15, 1838.

Barnickle, a boy about twelve years old, was brought to the hospital at noon, on the 19th of October, having fallen from a tree of considerable height into the turnpike road. He was perfectly insensible; his extremities, and, indeed, the whole surface of the body, were quite cold; his pulse was barely perceptible, his breathing stertorous, the pupils of his eyes rigidly contracted, with strabismus to a great extent, and considerable tumefaction over the frontal bone on the right side. More careful examination detected a fracture extending semicircularly upwards on the right side from the eminentia frontalis, traversing the parietal bone, and entering the occipital to the extent of about an inch.

His right arm was also broken near the wrist.

Immediately on his admission *epilep-*

*tic** convulsions came on, and continued, with some intermission, for twelve hours, accompanied by vomiting of bloody matter. The treatment adopted during this period consisted merely of warmth to the extremities, and mustard cataplasms to the calves of the legs. Particular directions were also given that he was to have nothing but water in the way of food or beverage.

20th.—The report this morning is, that he has passed a tolerably quiet night, and that he got out of bed of his own accord to make water. The tumefaction had now completely closed the right eye; the breathing was natural; the pulse 70. In the evening a still further improvement had taken place.

The treatment to-day consisted in merely giving him water.

21st.—Has passed a comfortable night, and appears perfectly sensible this morning; pulse 84. Tumefaction lessened, so that the eye-lids are open to the extent of 1-8th of an inch; vision imperfect. Tongue loaded with a soft, whitish, *detachable* fur; no thirst.

In addition to water, I now ordered very thin water gruel.

22d.—Has passed a good night; pulse 64; urine passed in great abundance.

In the evening the pulse continuing slow and labouring, as a precautionary measure, six leeches were applied to the temples. Diet, water and thin gruel.

23d.—Has again passed a comfortable night, and says "he is quite well." Pulse 64. On minutely questioning him, he says he has pain in his head.

To be allowed a roasted apple.

24th.—Late last evening, the bowels were moved for the *first* time since the accident, and again this morning. He passed an excellent night, and is in all respects much better; pulse 76; tongue *perfectly* clean.

To have a little rice pudding.

25th.—Has been rather restless during the night, and is *constantly* talking about going home, with exaggerated ideas of being enabled to purchase an estate. When spoken to, appears perfectly sensible, and declares himself quite well. Tongue perfectly clean; no thirst; pulse 84, and stronger.

Eight leeches were directed to the temples, and three grains of calomel to be taken immediately.

27th.—The leeches bled freely, and he has been less talkative. The calomel acted twice; pulse 96; skin rather heated; tongue clean, but dry.

Simple salines to be taken every four hours. Calomel, leeches, and blister, to be had recourse to if the talkativeness continues.

28th.—The leeches and calomel were resorted to; he afterwards slept soundly, and is in all respects much better. Pulse 88. Salines to be continued.

29th.—Has passed a good night, but is still talkative. Pulse 92.

30th.—Has passed a very quiet night, and is now much less talkative; in other respects he appears quite well.

Nov. 7.—Up to this period he has daily improved without medicine, and is sufficiently recovered to be made an out-patient.

I have long entertained the opinion, that in all cases of injury to the brain, from external violence, the immediate exhibition of a drastic purge is a very equivocal proceeding. Indeed, there appears to be quite as much reason in favour of preserving the stomach and alimentary canal from undue excitement, as there is for excluding the rude influence of noise from the tympanum, or the glare of light from the sensitive retina. What benefit, it may be asked, is likely to arise from the introduction of material into the stomach, whether in a solid or fluid state, the very intrinsic property of which is, professedly, repulsive to the organ itself? Besides, does not nature herself, by the act of vomiting, so peculiarly characteristic of cerebral disturbance, proclaim her disposition on the subject? and surely we are not to be so utterly regardless of her intentions as to act in direct opposition to her efforts. The only rational ground for supposing purgatives necessary in such cases must depend on the good effect accruing to the circulation from unloading the alimentary canal; but as accidents of this description generally happen to persons in rude health, or, at all events, well enough to be capable of following some active employment, either of business or pleasure, the mere circumstance of the ordinary quantity of fæcal

* I have used this word adjectively, from their *precise* resemblance to an epileptic fit.

matter being retained or expelled can have but little effect in relieving the oppressed sensorium, or in removing the impediment to the restoration of its suspended action; whilst the attempt to accomplish it may be attended by prejudicial circumstances. I submit, therefore, that when the controlling power of an organ is annihilated, it is better that the organ itself should remain undisturbed till the moving power be again restored. In the case in question, than which nothing could have been more successful, I carefully avoided calling up the powers of digestion for a period of forty-eight hours after the accident, and even then only permitted to be introduced into the stomach small quantities of fluid containing an almost minimum proportion of nutritious particles. Neither was any irritation excited by the exhibition of even the most grateful purgatives, the bowels being suffered to remain quiescent till nature herself determined on their action. The entire absence of fever during this period, the detachable fur on the tongue, and its immediately becoming clean after the mastication of a small quantity of roasted apple, proves in a very satisfactory manner the applicability of the treatment to the mucous membrane, and the healthy condition in which the alimentary canal was preserved—and which was further demonstrated by the comparatively undisturbed state of the circulation.

The application of leeches and the dose of calomel, on the sixth day, were given in consequence of the normal action of the brain returning, and the fear lest the repairing and reproducing powers should proceed to inflammatory action. Their repetition on the eighth day appeared necessary, from the increased excitement then present.

Two physiological illustrations may be adduced from the pathology of this case. One, that the cineritious neurine is that part of the brain on which the intellectual faculties depend; the other, that irritation excites its normal action.

It will be observed, that when it may fairly be presumed the excitement of reproduction had set in, the talkativeness commenced; and as he had been conveyed to the hospital in a state of perfect insensibility, it was natural to expect that the first exercise of his intellectual faculties should be directed to the contemplation of returning home; yet the activity of his imagination on the subject may reasonably be attributed to the effect produced on the cortical substance of the brain by the increased action going on along the whole line of the fracture; and as the process of reparation would produce, in the surrounding and approximating portions, a very similar condition to that which prevails in inflammation, it goes far to establish the law, "that irritation of the cerebral substance, either by inflammation or mechanical means, first excites its normal action, though always with derangement of this previous to its ultimate destruction *."

OBSERVATIONS ON ANIMAL MAGNETISM.

To the Editor of the Medical Gazette.

Sir,

The dirge of animal magnetism having been sung, and the subject having ceased to attract the attention of any but its most fanatic supporters, it would be quite superfluous to endeavour, by bringing forward any fresh proofs of its fallacy, to sink it deeper in the abyss of exploded absurdities than it has already fallen. There let it quietly rest, with the remains of Southcoteism, and other equally profound sciences.

The object of the following observations is not to add additional evidence to that which has already appeared in your pages, of the ideal nature of the facts on which the so-called science has been supported, but to endeavour to point out those innate sources of fallacy which, in the nineteenth century, could lead to the so ready reception of errors, the parallel to which in absurdity might be sought for in vain even amongst the chronicles of the dark ages. There is also another reason which I might offer as an apology for bringing the subject before your readers, and this is, the endeavour to rescue philosophy from the foul stain which has been cast upon her, by the absurdities perpetrated in connexion with this *science* by some who might be supposed as enlisted under her banners; and as the considerations which this last object leads to, form a proper introduction to the investigation of the sources of fallacy to which I have al-

* Solly on the Brain.

ready alluded, I shall at once commence by mentioning them.

The title of philosopher is one which is indiscriminately bestowed on all who devote a certain degree of attention to the cultivation of any branch of science; and it is only in this general acceptation of the term that the greater number of those who have supported the *science* of mesmerism, can lay any claim to that title. But amongst those who pursue the paths of science are to be found men, whose mental qualifications are as various as are the motives which induce them to quit the dull routine of every-day life, in order to cultivate any branch of philosophy. I have but to instance, the alchymist bending over his crucible, in dreams of gratified avarice—the ambitious man, giving the whole of his time to the investigation of some department of science, in the hope of obtaining worldly distinction by his anticipated discoveries—and the calm philosopher, pursuing the most laborious researches, with no other motive, but the pleasure derived from the exercise of his intellectual powers—in order to shew the necessity of making some distinction between those who are thus classed so indiscriminately together. It is much more easy, however, to acknowledge the necessity of drawing some line of demarcation between these true and false philosophers, than to seize on any general principle by which they can be recognised. It is only by attempting to discover the motive by which men are actuated in the pursuit of scientific inquiries, that we are furnished with any just ground of distinguishing between these different characters; and this attempt may be made with more facility than might at first be imagined, for difficult as it is to scan the motives of our fellow mortals, yet, in the present instance, we shall find that these different sources of action in the pursuit of one common object are generally combined with mental qualifications, which bear a striking and constant relation to them. On these grounds, therefore, we would divide this heterogeneous body of philosophers into two classes: the one, including those who pursue science entirely for its own sake, whose motive for undertaking the most laborious researches is the exercise thus afforded for their intellectual powers—an exercise which furnishes them with the highest source of pleasure which man is capable of enjoying. Amongst these only will be found men truly worthy the title of philosophers—men who have exerted real influence over the progress of science, and whose efforts have been constantly directed to the advancement of truth. The second class will comprehend all who have entered on the pursuit of science, either with a view of gratifying their ambition or avarice, or of satisfying that craving after novelty which in many furnishes so powerful a stimulus for its action. It is seldom that the nature of these "intruders in the realms of science" is sufficiently powerful to prompt them to undertake those laborious researches which are necessary for the real advancement of knowledge; constantly seeking after something which promises either wealth, novelty, or distinction, their reasoning powers become blinded by ambition or avarice, or led away by too vivid an imagination; and they generally end by becoming empirics in science, or schemers in mechanics.

Unfortunately it is in this class that will be found but too large a portion of the philosophers of the present day; but, at the same time, it must be a source of pleasure to the real lover of truth to know, that it also contains all those who have made themselves at all conspicuous in supporting these magnetic absurdities. This last remark will apply only to those who still continue to believe in this science, after having had opportunities of fully investigating it, and whose knowledge of the effects of the imagination over the functions of the body, and of the various other sources of error with which the subject was invested, ought to have led them to have been the first to expose its fallacy.

It would be an easy task to prove the assertions here brought forward as to the characters of those who have been the most fanatic supporters of this *science;* but it is one which would occupy too large a share of your pages with matter alike uninteresting and unphilosophical. Those of your readers who are at all acquainted with the history of the individuals who have taken the most prominent part in these absurdities, will readily recal characters proving the truth of my state-

ment. Instances, for example, must occur to them, where distinction has been obtained by pushing a blind empiricism to its utmost limits, and this, evidently from no other motive than that love of novelty before alluded to. They can also scarcely fail to recognise amongst these magnetic philosophers, others who have endeavoured to attract attention by appropriating to themselves the discoveries of their friends; and, in short, they will readily select from among them any character but that of the true philosopher.

Having, as we hope, fully succeeded in removing from philosophy the stain which had been cast upon her, by shewing that none of the supporters of these magnetic absurdities can have any claim to be considered as her children, I shall now proceed to point out to what innate sources of fallacy the subject recommended itself, in order to be so readily received. There can be but little doubt that the minds of the earlier believers in mesmerism were first dazzled by the charm of novelty in which this subject presented itself. That this love of novelty must have been from the first most powerfully excited, is evident from the ready manner in which the experiments of Baron Dupotet were received and credited—a circumstance which can only be accounted for by supposing the reasoning powers so totally blinded, as to prevent the obvious sources of fallacy with which these experiments were complicated, being at once sought for and detected. But having once acknowledged the reality of these phenomena, and passed the Rubicon which separates science from absurdity, these magnetic philosophers found themselves in possession of a power far surpassing any which had yet been wielded by mortal arm—a power by which they were to overthrow all the received opinions of former philosophers, and build on their ruins a temple to science in which they should figure as the chief architects, and which would stand as an eternal monument of their wisdom and discernment. The prospect thus opened to them was evidently too exciting for minds which were certainly not of the strongest mould, and, like the student of magic in Goëthe's ballad (der Zauberlehrling), they had but conjured up a power, from the influence of which they were unable to free themselves until it succeeded in overwhelming in a moral deluge those whom it was intended to serve. Thus it was that they were hurried on from one absurdity to another; no new fact could be brought forward, which, however repugnant it might appear to common sense, was not supported by evidence equally as conclusive as were those which preceded it; and they were thus obliged either to admit the new phenomena, or, by denying the former, allow themselves to have been the willing dupes of a set of impostors. The course chosen cannot for a moment be doubtful, and thus it is that wonder after wonder has been added to this science, each surpassing the other in absurdity, until at length (if our information be correct, and we fully believe it is so) the senior physician of one of the London hospitals might have been seen at the bed-side of a patient who was suffering under some serious disease, receiving from the lips of a magnetic prophetess whom he had directed to be brought there for the purpose, a prediction as to the probable termination of the malady. The picture is too painful to dwell on, and we sincerely hope, for the hononr of human nature, that the other acts of the individual alluded to may furnish grounds for referring this gross absurdity to some more deep-seated source than that of a mere temporary infatuation. There is yet another ground of fallacy, which must have rendered the pursuit of this subject in the highest degree pleasing to minds such as those we are now considering. This is, the idea they entertained of being persecuted individuals, when their absurdities had called down upon them the just scorn of the more sensible part of the community. The complacency with which these magnetic philosophers pictured themselves as associated, by future generations, with Galileo and Tycho Brahe, as sufferers for the cause of science, must have acted as a powerful stimulus to them in pursuing their mad career; and the idea which gave rise to so pleasing a hallucination must have exerted an important influence in causing them to reject all advice from those whom they considered so prejudiced. In addition to these sources of fallacy, which must have operated so strongly in blinding the minds of the investigators of the subject, we might add others which will account for so large a body of

respectable individuals being at one time found amongst the converts to their errors. The influence of names which they had been accustomed to respect—the apparently striking effects produced at the public exhibitions of these magnetic phenomena—and the ignorance of the public in general of the effects of imagination over the human frame—were so many sources of fallacy which might account for their giving at least a passive assent to these magnetic absurdities. Fortunately the minds of these individuals were still open to reason, and it required but a few well-conducted experiments to convince them of the fallacy of the subject.

We are aware that other motives have been brought forward as actuating some in the pursuit of these mesmeric investigations. We feel confident, however, that in this country, at least, the subject has never been pursued from motives which would present so frightful a picture of moral depravity in those who are governed by them.

Before concluding, there is one question which it would be well to consider, as it involves the moral character of those who continue to believe in this *science*. It is, as to the possibility of any persons in possession of their reasoning powers still acknowledging the truth of these phenomena, after the mass of evidence which has been brought forward against them. There are, undoubtedly, many who would immediately reply to this question in the negative, and assert the impossibility of any infatuation exerting such a powerful influence on the mind as to enable it to reject evidence so conclusive. We are inclined, however, to take a more charitable view of the question, and, placing ourselves for an instant in that elevated situation which these magnetic philosophers fondly believe they occupy, as the sole votaries of truth, and as martyrs for the cause of science; resting for a moment on the lofty pinnacle of mental greatness—on which they have so gratuitously placed themselves; and thence surveying the vast prospect of future fame and renown with which they believe themselves surrounded, and then casting a glance into the abyss of moral annihilation into which the acknowledgment of their error would in a moment plunge them; we can, we say, imagine that the prospect thus presented to them is too horrible to be dwelt on; that their minds naturally shrinking from the contemplation of such a picture, fondly endeavour to prolong the dream in which they are entranced, by blindly rejecting every fact which would tend to prove to them its reality; and thus, like the bird of the African desert, they vainly hope to elude the threatened danger by removing it from their sight. Thus, and thus only, can we reconcile the conduct of these blind fanatics with the supposition of their sanity and moral rectitude; a line of conduct so beautifully alluded to in one of the poems of the Irish bard, that we cannot better conclude than by a quotation from it:—

> ——— "Oh! the lover may
> Distrust the look which steals his soul away;
> The babe may cease to think that it can play
> With heaven's rainbow; alchymists may doubt
> The shining gold their crucible gives out;
> But Faith, fanatic Faith, once wedded fast
> To some dear falsehood, hugs it to the last."

M. F.

ON THINNING OF THE HEART'S PARIETES.

To the Editor of the Medical Gazette.

Sir,

Whether I look back at my own early practice, or observe that of my junior medical brethren, I am convinced that there is no single morbid condition which occasions so many difficulties as dilatation or thinning of the parietes of the heart. I do not mean to say that the formidable character of this disease gives rise to more anxiety than others, but merely that the infinite variety of symptoms proceeding from it is constantly baffling and puzzling the investigator desirous of ascertaining its real nature. In many cases the symptoms are not referred to the heart by the patient, but he complains chiefly of disturbance in remote organs, particularly the head; and, indeed, the origin of the whole train of symptoms is not unfrequently overlooked by the practitioner also. Having taken some pains in classifying the numerous morbid characters emanating from this cause, perhaps a brief summary of them might be useful to some of your readers.

At the threshold of this inquiry it will be necessary to consider the rule laid down by Laennec, and sanctioned by

subsequent authors, for ascertaining the existence and the extent of the heart's dilatation by means of auscultation. Like every other general rule which has been applied to medical science, this also leaves much for time and experience to correct and curtail; and the young practitioner who has zealously measured the extent of the heart's rhythm over the surface of the chest, and pronounced judgment accordingly, often, to the dismay and terror of his patients and their friends, begins at length to doubt whether the precordial region (so far at least as admeasurement of its sounds is concerned), is still in many respects a *terra incognita*.

Laennec himself mentions some conditions in which the rhythm of the heart is heard beyond the limits of the precordial region; and the number of these has been added to by the experience of others. Thus, in childhood—in persons whose chests are contracted, or not well covered with muscle—in anæmia—in condensation of the lungs from the deposition of tubercles or otherwise,—under either of these circumstances the sound of the heart is heard beyond the limits of the precordial region.

There is another class of cases also (if my experience may be trusted), where this symptom cannot safely be supposed to indicate dilatation, namely, in old people. I have found that, in most persons beyond the age of sixty, the sound is heard distinctly on the right side of the sternum—a circumstance not to be attributed, as I conceive, to disease, but to the change in the density of the lung natural to that period of life, assisted probably by the ossification of the cartilages of the ribs, by which these parts are rendered more fit for the transmission of sound.

But in addition to the above exceptions to the rule under consideration, (which, being known and understood, can therefore be guarded against) it is by no means uncommon to observe the rhythm over the whole anterior portion of the thorax, in full-grown men, having their chests well developed, and who have never manifested a single symptom of cardiac disease. This peculiarity may be owing to a variety of circumstances altogether independent of disease, and is generally not observed until from some cause (it may be, a trivial one) the chest is submitted to the examination of the physician), a precaution, whatever may be the nature of the disease, that is now seldom neglected, and veryproperlyso. It is then that the poor and unsuspecting patient is informed that he is the subject of organic and extensive disease, and he is enjoined to take great care of himself. It is in vain that he pleads the absence of any symptom which can rationally be applied to confirm these views; he has been measured by the stethoscope, and the verdict is infallible.

I should be sorry if these remarks should induce any person to suppose that the stethoscopic signs are of no value in assisting to a correct diagnosis of dilatation, or of the other affections of the heart; my object is to point out the fallacies to which they are liable, when not taken in connexion with the general symptoms; but when examined conjointly with the latter, these signs afford a valuable and all but certain means of detecting the real nature of the complaint.

I have said that there is great variety in the character of the symptoms proceeding from thinning of the substance of the heart, which I shall now briefly notice.

In some cases the symptoms that mark this condition are extremely slight: the patient says that he feels nervous; that he has frequent attacks of giddiness; at the same time there is generally some slight gastric derangement, such as flatulence; but there is no prominent symptom to direct the application of treatment; the patient is therefore declared to be hypochondriacal, is ordered a placebo, or is "written down an ass."

In a more advanced stage, the disease puts on a more alarming appearance; the chief complaint is often still of giddiness, or of a sensation as of dying. There are wandering pains about the extremities, particularly the upper; coldness and numbness of the feet and hands; a want of power of the whole of one side of the body. In some cases epilepsy supervenes. There is constant pain of the left side; dyspnœa more or less urgent; palpitation, especially upon the least exertion; hæmoptysis; œdema pedum. The pulse is small, and very compressible; there is a bluish hue of the countenance, which is particularly remarkable on the sclerotic coat of the eye.

In a still more advanced stage, the patient lies in a paralytic state. For the most part it is paraplegia with which he is affected: the extremities are constantly cold, and cannot be kept warm by any contrivance. The œdema spreads up the limb, serous effusion takes place in the cavities of the chest and abdomen. The lungs become œdematous, and the patients die from asphyxia.

I believe the above embraces the usual routine of symptoms accompanying dilatation: a formidable group, but they are often greatly augmented by a wrong course of treatment, founded upon the supposition of the existence of mischief in the brain. Various depleting remedies are employed, which assist the disease in breaking up the system; but my paper is already so much longer than I intended, that I must bring it to a close, reserving the remarks on the indications of cure in this affection until another opportunity.

I am, sir,
Your obedient servant,
LONDINENSIS.

December 20, 1838.

MEDICAL GAZETTE.

Saturday, December 22, 1838.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

PROCEEDINGS AT LONDON UNIVERSITY.

THE Medical Faculty of the London University are extremely unfortunate in their career. After having successfully resisted the pertinacious efforts of Mr. Warburton to introduce his *protégé* among them, and after a promise had been made by Lord John Russell that a new charter should be granted them, in which provision should be made against acknowledged abuses, the Medical Faculty were induced to resume their labours, in the hope that a more liberal system was about to be adopted. They set about arranging a code of regulations for the conferring of degrees, and their provisional Report was given to the public through the medium of this journal. The general circulation thus given to it had the effect of directing public attention to the subject, and of eliciting much information from various quarters as to the best course of procedure to be taken by the new members of the University, in the rather novel field in which their legislative talents were required to be exercised. Under such circumstances, it is not surprising that the proposed regulations were severely criticised. These comments we have reason to believe were not altogether lost upon some members of the Medical Faculty of the University; among whom, we may remark, however, it is well known that very great diversity of opinion has prevailed on numerous essential points. The general voice of the public has also made itself heard, and the Senate soon became convinced that an entire revision of the whole system had become absolutely necessary. It was now also tolerably clear that nothing approaching to unanimity in the Medical Faculty could be hoped for, and that, after the fullest discussion and comparison of opinions, it would be necessary to come to some compromise — taking an average of the several views and sentiments on each subject, and embodying this into a set of regulations which should represent, not the absolute opinions of any, but the general result of their united deliberations. The manner in which this was most likely to be effeetively accomplished, seemed to be by having some one especially appointed to the arduous task of collecting, collating, and bringing into harmony, the multifarious views of the different parties concerned; and it was farther thought that the person so appointed might also be advantageously recognized as head or president of the Medical Faculty, for conducting the examinations, superintending correspondence, &c. Convinced of the

expediency of there being such an officer, and feeling perfectly sensible that no one would undertake the duties without adequate remuneration, the Medical Faculty determined, at a meeting held November 21st, that a Dean of the Faculty should be appointed, for the purposes abovenamed, *with a salary of* 500*l. per annum!*

The duties of the "Dean," it was evident, if he were once appointed, would supersede those of the Chairman; and accordingly, at the following meeting, held December 4, Dr. Roget resigned his office, not choosing, we presume, to have it imagined that he assumed any superior claim to the proposed appointment. But the Medical Faculty, collectively and individually, were premature in their measures, and deceived in their expectations. The new office has not been sanctioned by the Senate of the University, owing, as we are informed, to the active opposition given to it by Mr. Warburton, who, in requital perhaps of his former discomfitures, has renewed his fiercest hostility to every thing proposed by the Medical Faculty; nay, so bitter is his hostility, that he has proposed to do away with the Medical Faculty altogether, and insists that, in point of form, it has no real existence, and consequently no right to propose any measures to the Senate. From this plain unvarnished statement of the facts, our readers may judge what a regular mess they are making of the whole affair.

Notwithstanding these discouragements, the Committee of the Medical Faculty have determined to persevere, and are endeavouring to get up something in the shape of another Report—which we have reason to believe will be considerably altered from that which we last presented to our readers. They have resolved, however, not to appoint any permanent Chairman as successor to Dr. Roget, till the question as to a Dean shall have been decided by the higher powers—viz. Mr. Warburton and the Government.

It has all along been our humble opinion, as our readers well know, that the medical department of the London University, as at present constituted, is not capable of exercising in an efficient manner the high functions with which it is entrusted. It was set up in an illiberal spirit of opposition to the other medical corporations, but more especially the College of Physicians; and the gentlemen who compose it (with one or two exceptions) are not qualified by their position, either in society or in their profession, to exercise that moral sway which is required to give weight and influence and popularity to their proceedings. Then they are composed of different and jarring elements—their own original education in several instances defective—brought up in different, not to say rival departments of the profession—their views upon important points totally at variance—tired out and disgusted by the fruitless, the ungracious, and unrequited task to which they have been called—what are we to expect of them? Perplexed by the difficulties of bringing their labours, with respect to medical studies and the regulations for medical degrees, to a satisfactory termination—deceived by the Government in their cherished hope (a hope founded on positive promise) of receiving a new charter—thwarted by schisms within, and assailed by opponents from without—the whole edifice originally built on a sandy foundation, its fragments dropping off one by one *, seems to be tottering, and may perhaps fall in even before the roof is completed.

The plan of medical education proposed by the Committee of the Medical Faculty of the London University, which we laid before our readers some months ago, was rather extensively cir-

* Dr. Arnold has resigned, and many of the members have ceased to attend the meetings either of the Medical Faculty or of the Senate.

culated by one of the members of the Senate, and the parties to whom copies were thus sent were requested to transmit their opinions. Comparatively but few answers were returned, a great many declining to take the trouble of recording their sentiments. Of those who have sent answers to Sir James Clark's circular, it is astonishing how few approve of his plans; the general impression being in keeping with that expressed in this journal—viz. that too much was required of the candidates. The two best letters on the subject are those of Dr. Watson, of King's College, and Dr. Christison, of Edinburgh; both of whom are tolerably severe on the proposed regulations. The latter says, "We are all strongly convinced that you have overstepped the limits of prudent reform. We give you most ample credit for your zeal and activity, and we are confident you must have weighed well your measures, but we are afraid that the want of some experienced teachers in your body, and consequently of a personal and practical knowledge of the present qualifications of students, of the state of medical education, and of the sort of demand for it which exists throughout society, may have led you to overrate the length to which you may safely go. I refer especially to the great amount of preliminary studies which you propose to enforce. . . .

. . . "Your scheme of study will, I am satisfied, defeat its own object. Either your examination in arts and philosophy will become a dead letter, a mere formal matter disgracing your statute-book, or the ponderous machinery of a Metropolitan University will end in producing some thirty or forty doctors at most—an event which will be attended with no improvement whatever to medical education and practice, and science, or at least with no improvement commensurate with the magnitude of the means employed."

WESTMINSTER HOSPITAL.

Clinical Lecture by Jno. Burne, M.D.

November 12th, 1838.

Case XXII.—*Mutitas—Sudden loss and equally sudden recovery of the Speech.*

Richard O'Connor, aged 25, a policeman, admitted on Tuesday, the 29th of October, 1838. On my asking what his complaints were, he did not answer, but shook his head, and taking a slate, wrote down, that last night (Monday) while on duty he suddenly lost his speech, having been conversing with the superintendent only a few minutes previously, and that he had been quite dumb since.

He further stated that the same thing had occurred while he was in Paris three years ago; on which occasion he went into the Hôtel Dieu, and was ten days before he recovered the power of speech: that his state of dumbness excited much interest; that he was taken into the theatre in presence of the pupils, and a clinical lecture delivered on his case.

Beyond the loss of speech, I could discover no disorder of functions, except a very confined state of the bowels, which I understood was habitual to him; and to this consequently my attention was directed.

Sumat Pulv. Jalapæ Comp. ʒss. statim.

This dose having produced but a very slight effect on the bowels, was repeated in the evening, and again on Wednesday morning; and on Thursday morning the apothecary found it further necessary to give a purging draught. This operated freely about midnight; in four hours after which, that is, at a quarter-past four o'clock on Friday morning, O'Connor recovered his speech as suddenly as he had lost it, and as perfectly as at any period of his life.

These are the facts of this extraordinary case, upon which I have scarcely a remark to make, It was more properly an accidental dumbness, "*Verba articulandi impotentia,*" than an aphonia, or loss of voice, such as we constantly meet with from cold.

In an occurrence of this description we naturally suspect imposition, and are on the alert accordingly; but, unaccountable as the case was, I could discover no reason to justify a disbelief. The patient was open and frank in his manner, looked one fully in the face, and had none of the usual motives, poverty and destitution, for becoming an inmate of the hospital: besides, he left the institution at his own desire, that he might return to his duty.

Now as to the cause of this sudden de-

privation of speech, I am at a loss to assign any that may be satisfactory. The only one that suggests itself is the more than usually confined state of the bowels at the time of the seizure; which derives some show of probability from the circumstance of the recovery of speech, quickly after the constipation had been thoroughly removed.

Then in order to explain how the larynx, the organ of speech, could have its functions suspended by any disordered state of the alimentary canal, one must of necessity refer to the intimate connexion and consequent sympathy between these parts, through the pneumo-gastric nerves, branches of which are so liberally distributed to the larynx, while the main trunks proceed to the stomach, and to the several abdominal plexus.

CASE XXIII.—*Apoplexy from the rupture of an Aneurism of the middle Cerebral Artery, fatal in thirty minutes.*

This is a case of very considerable interest.

William Tuck, about 35 years of age, was under my care as an out-patient for hæmorrhage, supposed to be from the stomach. He was emaciated, and much out of health; on which account he was admitted into the hospital on Tuesday, the 9th of October, 1838.

In the course of two hours after his admission, as he was walking across the ward, he cried out suddenly of pain in the head, and fell down insensible. He was seen by the apothecary immediately, who found him insensible, comatose, breathing slowly, deeply, and unfrequently; but without stertor, and without the slightest convulsion or muscular movement. He died in about thirty minutes after the seizure. In fact, he seemed to be dying from the moment of the attack.

Necrotomy twelve hours after death.

During the removal of the upper part of the cranium, bloody serum, to the amount of three ounces, flowed through the wounds in the dura mater. The dura mater having been raised exposed a thick layer of coagulated black blood, spread over the superior surface of both hemispheres, particularly of the right; and amounting certainly to five ounces. This extravasated blood was situated between the arachnoid and dura mater. The brain having been removed entire, some bloody serum was seen in the cranial depressions at the base, but no coagulum.

The arteries of the brain were examined, first, at the base, where all were sound: though the left vertebral was anormally small, being not more than one half the usual size. The cerebral arteries were next traced, and found to be sound also, with the exception of the right middle cerebral artery, the main trunk of which having been traced in its course through the fissura Sylvii, and afterwards its larger branches, into the cerebral anfractuosities, one of these was seen leading to a small aneurism, situated at the superior outer and anterior part of the middle lobe of the right hemisphere, in one of the intergyral spaces, thus forming a small round tumor, the size of a swan shot, on the surface of the brain, immediately under the arachnoid. The aneurism had ruptured, the rupture running directly across the little sac superiorly, and through the arachnoid; and hence the source of the blood poured out between the arachnoid and dura mater. The walls of the sac were half a line thick, white, and of an almost cartilaginous firmness, the sac itself like a small hollow sphere, smooth and shining within; and at the bottom was seen the circular mouth of the artery opening into the sac. The brain itself uninjured.

The liver was indurated to the first degree; the spleen enlarged; and the stomach very vascular.

The thoracic viscera normal.

The peculiarity of this attack was its not having been preceded by any of the usual warnings of apoplexy, as headache, vertigo, &c. The absence of these symptoms, which are so generally manifest for some time previous to the seizure, may assist us in distinguishing this form of apoplexy, and lead us to expect the sudden rupture of a vessel, the condition of which vessel, as in the present instance, was not of a nature to afford premonitory signs.

The insensibility, too, was complete—total, in consequence of the very great effusion of blood and pressure on both hemispheres; and hence there was no appearance of hemiplegia. For the same reason there was an entire absence of convulsions, the functions of the cerebro-spinal system, and of all the muscles dependent upon it, having been annihilated by the vast and general pressure of the extravasated blood. I have generally found that, in apoplexy accompanied with convulsions, the effusion is not large.

In hemiplegia, although the effusion may be considerable, it is limited to one hemisphere of the brain—the opposite to that side of the body affected with paralysis.

A question naturally arises as to the situation in which the extravasated blood was found. The coagulum was spread over both hemispheres, while the aneurism from which it was poured out was seated in the right. How, then, did the effused blood find its way to the left hemi-

sphere? Dipping down perpendicularly between the hemispheres is the falx major, a tense membrane descending to the corpus callosum, and united posteriorly to the tentorium. Through this falx the blood could not pass, which makes it a matter of surprise that so much should have found its way to the left side. One can only suppose that it passed from the right side under the edge of the falx, and so arrived at the surface of the left hemisphere. Imagine, then, the force with which the blood must have been poured out from the artery, to enable it to take such a circuitous course, and to arrive at the opposite hemisphere, in spite of the obstacle just mentioned.

In this dissection we were fortunate in finding the source of the hæmorrhage. Generally, in apoplexy, whether the effusion takes place on the surface of the brain, or into its substance, we do not discover the point of lesion from which it proceeds. But in this instance, on tracing the arteries, we arrived at this little aneurism, which was unquestionably the source. Here [presenting the preparation] is the trunk of the middle cerebral artery, and here is the branch of it leading to the aneurism; and at the bottom of the little sac you distinctly see the artery opening into it. The aneurism being situated in that part of the artery distributed to the surface of the brain, it was covered by the arachnoid membrane, and the rupture of the aneurismal sac ruptured also the arachnoid (which I said covered the sac), and consequently the blood was poured out between the arachnoid membrane and the dura mater, so that the effusion was on the surface of the brain.

A question also arises here, connected with apoplexy in general—namely, why does sanguineous effusion occur more frequently in the middle lobes of the brain, and from the middle cerebral arteries, than in the other lobes, and from the other arteries? In the case under consideration the hæmorrhage arose distinctly from the middle cerebral artery; and apoplectic cerebral lesions are certainly found in greater proportion in the middle lobes than in any other parts of the brain. The only reason I can assign is this: the middle cerebral arteries are regarded as truly the continued and terminating branches of the internal carotids. When the carotids have concurred to form the circle of Willis, the two anterior cerebral arteries proceed forwards; then turning upon themselves, pursue their course horizontally backwards between the hemispheres, over the corpus callosum, taking thus a very circuitous route; whereas the middle cerebral arteries, entering at once into the fissura Sylvii, continue in an almost perpendicular and direct course, and are therefore more exposed to the force of the circulation than the other arteries which take a winding course; and are so much the more likely to yield to that force, and eventually to be ruptured by it. This, I imagine, is the reason why, in so many cases of hemiplegia, the apoplectic effusion of blood is found in one of the middle lobes of the brain, and depends doubtless on lesion of a branch of the corresponding middle cerebral artery.

By the history of this patient we were informed that he had thrown up a quantity of blood formerly, but whether it proceeded from the lungs or the stomach could not be ascertained. The appearances of the stomach indicate that it came from that organ. The liver was indurated to the first degree, the spleen was enlarged, the stomach was vascular; and under these circumstances blood is very apt to be poured out from the gastric mucous membrane, and occasion hæmatemesis. In this case it probably came from the stomach, the diseased liver being the primary cause.

CASE XXIV.—*Sanguineous Effusion at the Base of the Brain — Spasm of the Right Sterno-cleido Mastoideus—Death on the third day.*

—— Clarke, a butcher, about 35 years of age, well built and of full stature, while walking home in the middle of the day, somewhat excited by liquor, was seized with a violent pain, deep-seated in the back of the head, which made him stagger and unable to reach his house, though near at hand, without assistance. The pain continued fixed and violent, and the head was drawn round, so that the face looked over the right shoulder; in which position it remained unaltered till his death. He expired on the third day, without any febrile movement having sprung up, or any change having occurred in the symptoms, other than the pain shooting down the spinal marrow (he was neither comatose nor insensible). He seemed to die exhausted by the unremitting, severe, obtuse pain, which was in no way affected or relieved by blood-letting, by purgatives, opiates, or counter-irritation.

Necrotomy, eighteen hours after death.—The brain was sound in every part; but having been removed, there was exposed a coagulum (about one ounce and a half) of black blood at the base of the cranium, which entangled the left spinal accessory nerve in its course from the occipital hole to the posterior lacerated foramen. The arteries at the base of the brain were free from disease, and the source of the hæmorrhage could not be discovered.

Here, then, as in the former case, was hæmorrhage on the exterior surface of the brain, proceeding in all probability from the rupture of a small vessel; but the point of rupture, the source from whence the blood proceeded, could not be discovered. In this instance, also, the blood was effused suddenly, without any premonitory sign. The turning round of the head, so that the patient looked over the right shoulder, may be referred to irritation of the left spinal accessory nerve, a main branch of which is distributed to the left sterno-cleido mastoideus muscle; and any permanent contraction or spasm of this muscle would move the head round in the above direction. Now whether there was a mere entanglement of this nerve in the coagulum of blood, or whether the coagulum involving the trunk of the nerve strained its filaments at their origin from the upper part of the spinal marrow, is difficult to say. One cannot imagine that a coagulum of blood simply embracing the nerve, would produce much irritation, and one would be therefore more disposed to adopt the latter view as the more probable. The irritation or injury to the nerve must have been considerable, seeing that the spasm remained permanent till the patient's death.

The practical question connected with this case was, whether or not the pain indicated inflammation? The gentleman in attendance when I was called in, was undetermined how far this sudden pain depended on any inflammatory action at the base of the brain, or otherwise. The man, when I saw him, was sitting up in bed, complaining excessively of this pain and of the spasmodic contraction of the muscle, by which his head was thrown over the right shoulder. I concluded that it could not arise from inflammation, for the reason that pain alone does not constitute inflammation. In order to have inflammation present, you must have all the signs which constitute inflammation; not only the local signs of pain and disturbance of function in the organ affected, but also the general signs—that is, you must have febrile movement. Inasmuch as there was an absence of all the signs of inflammation, except the pain, there was no difficulty in deciding that the pain did not depend on inflammation, but rather on some accident which had occurred at the moment of seizure; in all likelihood an effusion of blood from the rupture of a vessel at the base of the brain; as it proved to be.

CASE XXV.—*Apoplexy.—Ramollissement of the Anterior and Middle Lobes of the Right Hemisphere of the Brain.*

Matthew Fearn, age 60, admitted on the 16th of November, 1836. He had been always a hard drinker; and on one occasion, seven years ago, after having drunk immoderately, was seized with a fit, was for a time insensible, and his whole body paralysed. From this he quickly recovered, and has escaped any other serious attack; though, whenever he stooped, he would grow giddy, and be liable to fall.

For the last two months he has been subject to pain in the head, giddiness, and tingling at the ends of the fingers; and when he has been going to take hold of any thing, his hand would frequently be clenched before reaching the object. A fortnight ago, while reading in the evening, he suddenly lost all sense, and fell down in a fit, remaining unconscious for about five minutes, and then recovered with the loss of the use of his left side—a state of complete hemiplegia.

When brought to the hospital, the left side was not only paralysed, but its sensation was diminished. Although he was sensible, the energies of the brain and nervous system were impaired, and his muscular powers consequently diminished; he lay helpless upon his back, and passed his motions and urine in bed; yet he took food with appetite, requiring, however, to be fed with a spoon, slept well, and was free from any pain or bodily disorder. The pulse did not exceed 60, was hesitating, though not deficient in power. He could not protrude his tongue beyond the lips; and when he had got it thus far it was drawn suddenly and involuntarily back into the mouth.

Emplast. Cantharidis, summo capiti; Haust. Jalapæ, manè; Hydrarg. Chloridi, gr. j. omni nocte.

By continuing the alterative every night, by repeating the purgative occasionally, and applying a second blister to the top of the head, some improvement took place; the pulse rose in number above the natural standard, and lost its hesitating character; the dejections and urine were passed less frequently in bed; and he would ask or make signal for the urinal, and so on: he understood what was said to him, yet was much embarrassed to answer; he could not find or put together the necessary words; but when he could command one or two words, they were appropriate and well articulated: the difficulty seemed to regard the power of language, not of articulation.

At the beginning of December, the left thigh and leg began to swell, with hardness and tenderness, from the groin downwards, in the course of the veins, presenting the decided characters of phlegmasia dolens. This state persisted, the limb became more swollen, and soon his appe-

tite began to decline, and his powers to fail; nevertheless he survived till the end of the month, before which period symptoms of gangrene had appeared in the foot of the affected extremity, and large deep sloughs on the back. One was surprised to see life hold on under such circumstances.

Necrotomy thirty hours after death.

Brain: Aqueous effusion under the arachnoid, also at the base of the brain and in the ventricles, to about three ounces. The intergyral spaces were deep and large, and the brain appeared small for the cranium.

The brain itself anormally firm, except parts of the anterior and middle lobes of the right hemisphere.

The antero-superior surface of the anterior lobe, about an inch square, was yellow, soft, and depressed below the level of the general surface of the brain; and the hemispheres being separated, this same condition was seen to occupy the whole of the inner surface, contiguous to the falx of the anterior, and part also of the middle lobe extending downwards to the corpus callosum. Horizontal sections of the right hemisphere being made, discovered the internal or medullary portions of the anterior lobe, and in part also of the middle lobe, to be disorganized, yellowish, soft, and pulpy; the disorganization, however, not penetrating to the ventricle. The only portions of the anterior lobe not involved were the outer and lateral convolutions.

In the extremity affected with the phlegmasia dolens, the iliac, the femoral, and other large veins, were entirely obstructed and filled with coagulum, adhering to the sides of the vessels. The corresponding common iliac was equally and similarly obstructed; and the inferior cava, to the extent of three inches, was filled with a large fibrinous coagulum, *not* adherent to the sides of the vessel.

This is the preparation [presenting it] of the veins and arteries taken from the limb affected with phlegmasia dolens. In the first place, you see the arteries very much diseased; in the next, the external and internal iliac veins, and also the femoral, filled with coagulated blood firmly adherent to the sides of the vessels, so that if the patient had recovered it would eventually have become organized; the veins of that extremity would be obliterated, and the circulation through them entirely obstructed. In the ascending cava there is an immense coagulum filling the vessel, but *not* adherent to its sides. The difference in the two states is this: in the veins leading to the limb affected with phlegmasia dolens, inflammation of the veins, phlebitis, existed, and produced an adhesion of the coagulum to the sides of the vessels; but in the cava there was a mere coagulation without inflammation.

As to the cause of this phlegmasia dolens, I can only suppose that in consequence of the debilitated condition of this patient, the circulation went on in the paralyzed limb so languidly that eventually it came to a state of repose in the veins, the consequent distension of which veins produced more or less inflammatory action—phlebitis. It was an ordinary case of phlegmasia dolens, into the pathology of which disease I do not propose to enter particularly on this occasion.

Returning to the cerebral disorganization, it is an example of true *ramollissement*, or softening of the brain. That which is frequently set forth as *ramollissement* is merely the disorganization or softening of the brain around an apoplectic clot, the cerebral substance having been lacerated by an effusion of blood. We constantly meet with an effusion of blood into the middle lobe from apoplexy, and see it surrounded by a yellow-green, disorganized, soft, semipurulent state of the cerebral substance, which is regarded by many as a *ramollissement*, or softening of the brain, but it is an absolute destruction from laceration, in consequence of the effusion of blood; whereas, true *ramollissement* seems to be independent of apoplectic sanguineous effusion. The *ramollissement* occupied a great portion of the anterior lobe and a part of the middle lobe of the right hemisphere, but did not extend to the ventricle.

It is interesting to remark the state of the speech. The difficulty of speech, which was very great, did not depend on the difficulty in articulation, but on the difficulty in finding words; so that when I asked him a question, he was evidently trying to consider what he should reply. If he hit upon a word, it was pronounced distinctly and without hesitation, the articulation being good. In ordinary cases of hemiplegia depending on a lesion of the middle lobe of the brain, the patient, as he recovers, has plenty of words at command, but he cannot articulate with facility or distinctness. There is at this moment a professional gentleman, whom I see frequently, afflicted with hemiplegia from an apoplectic seizure. His intellect is perfectly good; he has plenty of words at command, but he cannot get them out—he cannot articulate; he is like a person who stammers confoundedly. In the instance of Fearn the articulation was perfect; the defect was in language. This striking fact contributes to prove that the anterior lobes of the brain are connected with the power of language: while other facts derived from lesion of the middle

lobe, shew that the articulation and not the language is affected thereby.

How far the hemiplegia, or paralysis of the side opposite to the side of the brain affected, depended on the lesion of the middle or of the anterior lobe, our present knowledge of the functions of the brain does not enable me to state with perfect confidence; though I incline to attribute it to the lesion of the middle lobe.

The loss of sensation in the side paralyzed constitutes anæsthesia. I believe that this state of anæsthesia, or diminished sensation, is more frequent in hemiplegia than we imagine. We are in the habit of concluding that sensation is not impaired if, when we pinch a person, he feels it. We do not take the trouble to ascertain the degree or acuteness of sensation, or we should find it more frequently diminished in paralysis than we suppose: it was decidedly so in the case of Fearn. I am inclined to think that there are few cases of hemiplegia in which the sensation is unimpaired.

The aqueous effusion found under the arachnoid, and also the aqueous effusion in the ventricles, I do not regard as in any way connected with the apoplectic seizure. That effusion is quite consistent with the larger intergyral spaces and the small brain so common in those who have drunk hard. Into the consideration of the causes of this aqueous effusion I will not enter at this time; but reserve it for another occasion.

The prominent features of this case are, the true *ramollissement* of the brain affecting the anterior lobe and influencing the power of language, not the power of articulation; and then again the occurrence of phlegmasia dolens from languid circulation and phlebitis.

I will on another occasion refer to two cases of hemiplegia of an ordinary description, which I wish to compare with those now laid before you, and will then adduce reasons why an extensive laceration and injury of one hemisphere of the brain should not affect by pressure the opposite hemisphere.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

December 11, 1838.

Dr. Bright, President, in the Chair.

This evening a lengthened conversation took place on the subject of small-pox, which, it was stated by Dr. Merriman (and the statement was reiterated by Dr. Gregory) had of late become much more frequent after vaccination than was formerly the case.

Nothing very interesting or important was elicited; but there are some good remarks in the "vaccination section" of the Report of the Provincial Medical and Surgical Association, just published, which we shall give next week.

The only other proceeding was the reading of a letter from Mr. A. C. Hutchison, containing a case, by Mr. Smith, of Bristol. A patient 25 years ago consulted this gentleman for stone, and on sounding him a calculus was detected. He went to sea, and did not return for eight years. He then lost all his symptoms of calculus; but they had recently returned, and he again applied to Mr. Smith. He was cut, and a mulberry calculus removed. The case was adduced in support of the views maintained in several papers of Mr. Hutchisons, namely, that sea-faring men are much less prone than others to calculous disorders.

WESTMINSTER MEDICAL SOCIETY.

December 8, 1838.

Hale Thomson, Esq. President.

Malformation of Thorax.—Influence of certain states of the Uterus in arresting the Progress of Female Diseases.—Discussion on Diabetes Insipidus.

Dr. Golding Bird related a case he had recently witnessed at Guy's Hospital. The patient was a man of middle age, and extremely emaciated when he applied for relief. The zyphoid cartilage was bent backwards at a right angle towards the spine, and by its mechanical irritation of the stomach, when that happened to be full, always produced vomiting. The stomach became, in consequence, excessively sensitive, and would hardly bear the presence of any food. This patient was the most complete living skeleton Dr. Bird had ever seen. Dr. Bright, whose patient the man was, had just satisfied himself of the presence of scirrhus of the pylorus.

Dr. James Johnson thought it not an easy matter to detect scirrhus of the pylorus or pancreas, unless there was great leanness in the patient. He had not heard Dr. Bird state that external examination of the abdomen had been made, or whether any particular colour or expression of the face existed.

Dr. Bird said that Dr. Bright had examined the region of the stomach very carefully, and detected the hardened and sensitive pylorus with his finger. The patient had a remarkable sallowness of complexion.

Mr. Cock, the demonstrator of Guy's, had examined the thorax, and was convinced that the ensiform cartilage was deformed in the way described. The patient had succeeded, some days since, in breaking off the bent cartilage; and it now remained loose. The comfort of the man had very much increased since that event; he was able to retain his food, and the emaciation had diminished.

Dr. Johnson recollected a case of schirrhous pylorus, in which all the symptoms were unambiguous. It was the case of a lady; she was extremely thin and sallow. The vomiting was very frequent and distressing; she fell with child, however, and the symptoms gradually subsided. She was safely delivered of a healthy child, which she continued to suckle. She had improved in appearance, and actually had acquired a degree of *enbonpoint*. It was a well-known fact, that a state of pregnancy contributed to arrest the progress of phthisis; and it was probable that the remission of the symptoms in this case was due to the same cause.

Mr. D. O. Edwards was glad to hear of Dr. Johnson's case, because it seemed to point to a general principle, that certain conditions of the womb modified or arrested the development of diseases in the female system. He had a patient, a lady about 43 or 44 years of age, who had for years been subject to profuse menorrhagia. Each of these attacks, which occurred every three weeks, reduced the patient greatly, and kept her always thin and pallid. At length symptoms of phthisis pulmonalis showed themselves, and in process of time a large vomica was discovered on the upper part of the left lung. Mr. Edwards called in the assistance of Dr. Addison, and a careful stethoscopic examination of the thorax was instituted. Nearly the whole of the left lung was found to be obliterated, and a large vomica was indicated in the upper lobe by the very marked pectoriloquy. The right lung was very nearly free from disease. This lady's life being very valuable, she was sent to her country house, about forty miles from town. She had there resided for two years, and had been subject to the menorrhagia to the same degree as formerly. She was exceedingly emaciated, but the pectoral disease had made no progress. She had recently been seen by an eminent country physician, who stated that the vomica was still present, and that the normal respiration was inaudible in all parts of the left lung: the patient was a woman of superior intellect, and perfect self-command; and she had observed a most strict regimen in regard to food, temperature, and exposure to the atmosphere. He could not account for the remarkable retardation of the phthisical action, unless it was due to the concurrence of the menorrhagia, which might in some way preoccupy the constitution of the patient.

Dr. Chowne could see no reason to suppose that the menorrhagia had any effect in modifying the phthisis. There was, in his opinion, no analogy whatever between Dr. Johnson's case and that of Mr. Edwards. In the former, a healthy action of the womb had contributed to stop a disease; but in the latter case there were two concurrent diseases, which, rather than counteract each other, would, he thought, the more rapidly tend to destroy the patient.

Dr. A. T. Thomson thought the case related by Mr. Edwards was in point, and was a valuable fact, as it might lead to the discovery of a new therapeutical principle. He supposed the menorrhagia would operate in the same manner as the abstraction of blood from the system. Years ago, the practice of bleeding in small and repeated doses was very much recommended in the treatment of phthisis pulmonalis, and the practice was attended occasionally with good effect. If the phthisical action was not essentially inflammatory, inflammation was a very frequent concomitant of that disease, and he could very well suppose that in many instances the depletion by menorrhagia would tend to ameliorate the case.

Dr. J. Johnson was well aware that the American physicians had practised bleeding very generally in the treatment of phthisis; and they asserted that great success had attended their practice. He had no doubt that inflammation was always intertwined with the phthisical process, and that judicious depletion would be beneficial. He thought the lady whose case was related by Mr. Edwards might owe her safety in some measure to the fact of one lung only being diseased.

Dr. Bird had had several cases in which one lung alone had been at first affected with phthisis, and in which the patients had lingered as long as eighteen months, but the disease in the end had involved both lungs.

Dr. A. T. Thomson had a case at that time in the University College Hospital, in which one lung had for many months been obliterated by empyema. The pus had been discharged externally, and a contraction of that side of the thorax was the consequence. The patient's health was now tolerably good, and one lung appeared quite sufficient to maintain life.

Mr. Hale Thomson related a case wherein he had twice drawn half a gallon of pus from the side of the thorax. The patient recovered, but he had a *retrecise-*

ment on the affected side. He remained well for a year, but he was at present a patient in the Westminster Hospital, having the same side of the chest filled with pus or other fluid.

Dr. James Johnson considered that the fatality of cases of tuberculous vomica was always accelerated by the irritation resulting from the frequent expectoration necessary to get rid of the pus. He knew an instance in which a vomica discharged its contents outwardly, and the patient lasted a long while. The vomica was so large as to occupy an entire lobe, and it was tuberculous in its origin.

Dr. A. T. Thomson asked for advice in the treatment of a case of diabetes insipidus, in which he had tried in vain all the remedies he had ever known applied in that malady. The patient was a foreigner, and in a state of destitution. He passed as much as 15 pints of urine daily, the specific gravity of which was 1005.

Dr. Johnson recommended moral treatment. Opium in very large doses, generous diet, tincture of lytta, and other remedies, were recommended by several members, but no unanimity appeared to exist as to the means to be preferred.

IDIOS.

THE BRITISH MEDICAL ASSOCIATION.

To the Editor of the Medical Gazette.

SIR,

PERMIT me to call your attention, and that of your readers, to certain comments, or rather what may be called additions to Dr. Granville's oration, delivered at the last anniversary of the "British Medical Association," as inserted in the *Spectator* newspaper of the 1st instant,—for a more *illiberal* and *unjust* production I never met with,—so far, at least, as regards the knowledge or education of physicians compared with that of surgeons. It has evidently been written by a very conceited member of the profession, and some persons have even ventured to assert that it is from the pen, or at the suggestion, of the president of the above association. But by your kindness in inserting this in your valuable journal, he will have an opportunity of refuting the accusation, if he please. There is, as the writer of the article must know, no "strict law" in the College to prevent physicians bleeding or performing operations in cases of urgent necessity, nor any danger of their being turned out of the College for thus attempting to save human life. Yet he has the effrontery to assert this, and, in order to render such insinuations the more effectual with the public, he seizes with avidity Sir Henry Halford's late act of *omission*, and at the same instant commits the very sin (misrepresentation) of which the honourable baronet is accused. The attack may have some influence upon the ignorant, but discerning persons will, as some have already done, perceive the venom, and pointedly stigmatise the man, as our continental neighbours are accustomed so emphatically to doin like cases—"*Celui-là n'est pas un homme droit.*"

It is not for me to advocate the cause of Oxford or Cambridge graduates, or those of any other university; although it is quite notorious that what knowledge such students cannot obtain at one school, they seek and acquire elsewhere: and for this end, how many, for instance, proceed to the continent. But let it be observed, that the attack is directed not so much against schools as it is against individuals *practising as physicians*; for all such, whether in or out of the College, are comprised in it, some way or other, no matter of what university.

As the writer seems to be ignorant of the curriculum of medical education in Paris, I would inform him that graduates there must study four years at least, and undergo seven *public* examinations, before they can obtain the degree of Doctor in Medicine, or Doctor in Surgery; the studies for each of which are exactly the same; and such, indeed, as to include more branches than are required by all the examining medical Boards in this country, when put together; nor are the studies by any means less extensive than those proposed by the British Medical, or Reform Association.

But the author of the attack evidently cares nothing about these matters, so long as he can turn the subject to his crafty purpose, imitating the example of those whose intriguing conduct adds but little credit to a liberal profession. By such, it has been remarked on one occasion thus, "Oh! it is only a Cambridge degree;" on another, "Oh! he is only a Scotch M.D.;" and on the third, "Oh! it is only a French diploma," &c. &c. And this cunning device has sometimes succeeded, the dull auditory forgetting, for a time, that the bodies of the French, Scotch, and English, are, anatomically speaking, entirely alike, and that no man is confined by his teachers to any one mode of practice; but after acquiring extensive knowledge of the art, must exercise his own judgment as to what are the best means of treating diseases; always taking into consideration the difference of climate or locality, as well as the habits and constitution of his patients.

But let us return to the Paris curriculum. If, for instance, any member of the College of Surgeons in London, Dublin, Edinburgh, &c. wish to graduate at the Parisian faculty, his diploma will be received as two years' study, and of course he will be obliged to study two years longer. But let me also inform him, that unless he be more clever than many members of those colleges who have graduated there before him (and are now practising in this country,) he will not be able to pass those extensive examinations, even in that time. Yet these are the physicians among others who, according to this worthy, "comparatively know nothing," and who are emphatically styled "the most useless members of the profession!" So much for the principles of this so called "Medical Reform (!) Association."—I am, sir, &c. &c.

MEDICUS.

December 11th, 1838.

STATE OF THE MEDICAL PROFESSION.

To the Editor of the Medical Gazette.

SIR,

I AM well convinced that the public good is the object at which your journal ever aims; and it is from this conviction that I am induced to offer some remarks upon your leading article of the 24th November. Should these remarks appear to you not sufficiently worthy of being laid before the public, at least let me hope that they may serve as a hint to yourself for some observations upon the subject.

"That the (medical) profession is lamentably overstocked—nay, more, that it is over-peopled with candidates for employment, who, if we may use such a phrase, are not only legally but medically qualified," may be perfectly true; but be it remembered, that it is not less true of most other professions, and even trades; and when we take into consideration the increased wealth and population of the country, it will perhaps be found, on closer inquiry, that we have no greater cause for complaint than our neighbours of the bar, the church, or even those occupied in the various branches of commerce, trade, and agriculture.

Be this as it may, I would far rather draw the attention of the public to the removing of those causes which overload our profession, than add one more pang to the sufferings of those heart-sickened candidates for fame and employment—nay, more, I would even hold out for their encouragement and emulation those veterans of our profession whose zeal, industry, and talents, have acquired for them temporal prosperity and endless fame, some of whom have even risen from nothing—"quos dira paupertas extulit."

One fruitful source of the mischief which you lament (namely, the overloading of our profession), is to be found in the prevalent spirit of the age, founded in kindness of feeling, but in error of judgment, which induces parents to make, as they fondly imagine, gentlemen of their children, by bringing them up to a liberal profession (I call it the fault of the age, but I believe the Rambler made the same complaint in his day), without sufficiently regarding the bent of their talents, children, or their prospects of professional success. This naturally leads us to another great source of evil, on which, perhaps, I may dilate at some future period; it is the error in the present system of medical education.

Professional introductions, like those in trade, go, perhaps, too often by personal interest; so that many a deserving practitioner has the mortification to see himself beaten out of the field by a less gifted neighbour, whose talents are, like his pestle and mortar, hereditary. "Because Mr. Bolus's father attended my father, Mr. Bolus shall attend me," has become, as it were, a natural law in physic. So long as those in authority are careful in securing the diligent and proper education of Mr. Bolus, this law cannot work to much ill. It is not against personal interest, if backed by personal merit and deserts, that I wage war. But when the parent has no such talisman to leave behind him, he will surely do well, if he consult the happiness of his son, to consider carefully the expenses not only of his professional education, but of his general outlay till he arrives at the age of a "rising young man," should he ever attain this. He may then further take into his consideration whether the same outlay would not have bought for him a far larger share of personal happiness, nay, of public respect and esteem, had it been laid out in bringing up his son to some position in society more suited to his talents, habits, and connexions.

I am aware that I have been led somewhat beyond the limits of your observations, which apply chiefly to the aspirants for employment in our large hospitals and dispensaries; but it appears to me that the observations which apply to the profession generally bear so much upon this case in particular, that I shall make no apology for offering a few more general remarks applicable to the members of the profession themselves.

To those, then, who have already entered

the lists, I would say, persevere. Look to your profession as to that by which you may obtain not, perhaps, riches, but a decent livelihood; but, above all, look to it as to that by which you are enabled to obtain an *honest* fame—by which, if diligently followed up, you may do far more good in your generation than can be compensated by a somewhat larger share of this world's goods than your neighbour. Look to professional industry and attainments for your success in life, and not to adventitious circumstances. A carriage or a Champagne dinner party may obtain you a few patients, but no friends, and, above all, no peace of mind. To a well-regulated mind, the greatest professional success must be irksome if built upon such false foundations. Again I would say, persevere; persevere honestly but doggedly; and if the chances are "five to one" against your becoming a hospital physician or surgeon, or even a wealthy man, you may *at least* hope to avoid indigence, and *certainly* to preserve your integrity as an honest man.

That most of the hangers-on at our metropolitan hospitals must grow grey in their disappointment, and that many of these are admirably qualified for the offices they so fruitlessly expect, may seem hard; but surely their case is not more hard than is that of aspirants for distinction in our universities, in all large public institutions, and in other professions; and if a few cases of individual disappointment shall be found to work forth public good, as I hope to show, the calamity surely becomes less (if not to the individuals themselves), at least to the medical world in general.

I would first, however, ask these disappointed aspirants individually, how far each owes his failure to an over-rating of his own talents, interest, or perseverance? The great object of a hospital is to relieve the sufferings of our poorer brethren; the great office of those who are elected to them as physicians or surgeons, is to give their diligent and best endeavours to this end; and the great object of the pupil is to take every reasonable opportunity, consistent with humanity to the patients and deference and respect for his teachers, to acquire that knowledge which he will afterwards be called upon to apply to the same end: but as to that class of hospital hangers-on who neither come as learners nor with the real purpose of promoting the interests and utility of the institution, but merely to show themselves, and who regard a hospital only as it is subservient to the promoting of their own interests—with the disappointment of such men, however melancholy, I cannot sympathize.

One word on the public advantages derived from this over-supply of aspirants for office. The greater the number of candidates, the greater the emulation; and consequently the greater the probability of having these offices well filled.

It is extremely natural and proper that hospital physicians and surgeons should feel some personal bias towards those who are to become their colleagues in office; much of their personal comfort and public utility depend upon their acting in consort and unity. Such personal feelings may be, though I really believe they very rarely are, entertained and acted upon to the public detriment. Agreeing with your views upon medical education generally, that its object is to make good practitioners of the great mass of medical men, and not turn out a few stars of the first magnitude, I must yet differ in some degree from you, in thinking that we may descend so low in the scale in selecting our hospital physicians and surgeons. It is highly proper that the industrious pupil whose good behaviour and zeal have been long and carefully watched, should have some claim upon the governors of a hospital, in proportion to the time he has spent in its wards; but then it must also be remembered, that many men are well calculated to make good ordinary practitioners, who are by no means suited for the office of an hospital staff. It is from hospital practice chiefly that we acquire our knowledge in pathology and morbid anatomy; and it is from hence that we commonly learn the true value of all new remedies. Much is entrusted to, and much is expected from, medical men attached to hospitals; they should be teachers as well as practitioners, and it is no small matter of responsibility, that upon their zeal, industry, and abilities, in teaching their profession, depends in great measure the comfort and advantages derived by the public generally from medical practitioners of every description and denomination.—I remain, sir,

Your obedient servant,

PHILOMATHES.

London, Nov. 30, 1838.

DR. REES'S ANALYSIS OF THE LIQUOR AMNII.

THIS secretion has been examined by several continental chemists, with a great diversity of result, not only as to the quantities, but likewise the quality of its constituents.

Buniva and Vauquelin make its specific gravity 1004; and its solid contents, 11 to 12 parts in 1000. Frommhertz's experiments differ from the late observations of

Dr. Vogt, of Bern, who attempts to explain the discrepancy, by supposing that the fluid, as examined by Frommhertx, was not obtained pure.

In a paper on albuminous fluids, by Dr. Bostock, published in the fourth volume of the Medico-Chirurgical Transactions, the solid content of a specimen of liquor amnii is given at 16.6 in 1000 parts; which would make the specific gravity of the fluid to be about 1008.6. This observation is in close accordance with my own; the four specimens I have examined varying in specific gravity between 1007 and 1008.6.

The analyses I here bring forward were performed on specimens of liquor amnii procured for me by my friend Mr. C. W. Lever, to whose kindness I am indebted for the particulars I shall prefix to each analysis. Great care was taken by that gentleman that no extraneous matter should become admixed with the liquor, which was drawn off either by a canula or a female catheter.

Case I.—C. W. has been delivered of three children. In the two first labours the perforator was employed to effect delivery. The third labour was brought on at 7½ months—the child born dead. On examination, the brim and outlet of the pelvis were found by Mr. Lever to be contracted; he therefore again induced labour at 7½ months, by passing a female catheter into the os uteri, and drawing off the liquor amnii. Labour pains came on twenty-four hours after the operation, and in forty-one hours a female child was born alive: it lived only half an hour.

Examination of Liquor Amnii.

Strongly alkaline.—Sp. grav. 1008·6.

Contained in 1000 parts:—

Water	983·4
Albumen (traces of fatty matter)	5·9
Albuminate of soda } Chloride of sodium }	6·1
Animal extractive soluble in water and alcohol, urea, chloride of sodium	4.6
Traces of alkaline sulphate.	

(Three other analyses are given, with very nearly similar results.)

The fatty matter procured from the liquor amnii differs from that of the blood in not assuming a deep purple tint when digested in strong sulphuric acid.

The salts, both of the aqueous and alcoholic extracts, consisted of chloride of sodium and carbonate of soda, with minute traces of an alkaline sulphate and phosphate. In the salts of the aqueous extractive, the carbonate resulted from the incineration of an albuminate; and in the alcoholic extractive, from the decomposition of a lactate, by the same operation.

The salts obtained from the aqueous extractive in analyses Nos. 2 and 3 were not entirely soluble in water. The insoluble matter, on examination, proved to be phosphate of lime; which must either have been held in solution with the albuminate of soda, or have resulted from the decomposition of an alkaline phosphate at a red heat; some soluble earthy salt being present, to effect such decomposition. I lately observed the existence of phosphate of lime in the aqueous extractive of a specimen of blood drawn from a diabetic patient; and am inclined to think that further observations will shew a similar result in other albuminous fluids. I should be inclined to ascribe the presence of the earthy phosphate to the existence of some soluble earthy salt in the aqueous extractive, which, when fused with phosphate of soda, yields phosphate of lime; and I am strengthened in this opinion by the fact, that when the salts, after incineration, were not allowed to fuse, no earthy phosphate was observed; and traces of an alkaline phosphate were detected in the aqueous solution of the salts, which was not the case when the earthy phosphate was present.

Urea was proved to exist in the liquor amnii, by its characteristic crystallization with nitric acid, and the re-actions of its nitrate. A further evidence was obtained in the analysis of Specimen 3, by the crystallization of chloride of sodium in octohedra, from the alcoholic extract, when allowed to evaporate spontaneously. Specimen 3 contained urea, in greater proportion than the other specimens.

The albumen procured from the liquor amnii yields a trace of oxide of iron and earthy phosphate, on being incinerated.

The flocculi which are observed floating in the liquors are composed of caseous matter, containing chloresterine.

On examining the analyses, it will be observed that the liquor amnii varies greatly in proportional constitution in different individuals, at the same period of utero-gestation; which shews, that, like perhaps all the secretions of the body, it is affected by the temperament and diathesis of the mother. The specific gravity of the secretion, however, varies but little in four specimens, which is possibly a precaution on the part of nature to preserve a medium of fixed power, to oppose the motions of the fœtus in utero.

Whether or not the liquor amnii varies in concentration at different periods of utero-gestation, remains to be shewn: it is certainly pretty constant at 7½ months.

The experiments of Dr. Vogt, of Bern, would lead us to suppose that there is

great variation in the density of the fluid at different periods. At six months, that chemist asserts that he has found 9·71 parts of solid matter in 1000 of the liquor; and at 3½ months, 20·55 parts in 1000. There is, however, a want of proper relation between the solid content and specific gravity of the fluids, as given by the Doctor, that prevents me from regarding his experiments as conclusive*.

HOOPING-COUGH.

Dr. Lombard, of Geneva, has arrived at some interesting results touching this disease. In the first place he has discovered that when the disease is on the increase, the paroxysms are more frequent in the night than in the day; but when the disease is on the decline. they are more frequent in the day than in the night. This difference is of importance, especially when we wish to obtain all the advantage possible from change of air. It is difficult to give a complete explanation of this difference. One may easily understand that when the paroxysms are less severe they are insufficient to wake the papatient; but during the period of increase, when tears, cries, and restlessness, seem to make them so frequent during the day, why are they still more numerous in the night?

In the second place, Dr. Lombard finds, from examining the age of forty children who died of hooping-cough, that the danger of this disease is in the inverse ratio of the age of the patient two-thirds of the children were under two years of age, and almost all the other between two and four: after six, not one died of hooping-cough, or its sequelæ.

Lastly, Dr. Lombard has satified himself of the utility of sub-carbonate of iron in diminishing the number and the violence of the paroxysms. This has frequently been observed by himself and the colleagues to whom he had communicated this result. The quantity he administered was from 24 to 36 grains a day; in some patients the relief was immediate; in others it was slower, but not less evident. The sub-carbonate of iron has been employed in Germany by Dr. Steymann, who, believing hooping-cough to be a neuralgia, very judiciously tried iron as a remedy. He gave only from six to eight grains; but Dr. Lombard has found it advantageous to administer much larger doses.—*Gazette des Hôpitaux.*

REMARKABLE CASE OF PERVERTED APPETITE.

I had lately under my care a gentleman of fortune and family, who so habituated himself to the use of vast quantities of the volatile salts, that ladies commonly smell to, that at length he would eat them in a very astonishing manner, as other people eat sugared carraway seeds. A *Δριμυφαγεια* (*eating of acrid things*) with a vengeance! The consequence soon was, that he brought on a hectic fever; vast hæmorrhages from the intestines, nose, and gums; every one of his teeth dropped out, and he could eat nothing solid. He wasted vastly in his flesh, and his muscles became as soft and flabby as those of a new-born infant; and broke out all over his body in pustules, which itched most intolerably, so that he scratched himself continnally, and tore his skin with his nails,in a very shocking manner. His urine was always excessively high coloured, turbid, and very fœtid. He was at last, with great difficulty, persuaded to leave this pernicious custom; but he had so effectually ruined his constitution, that, though he rubbed on in a very miserable manner for several months, he died rabid, and in the highest degree of a marasmus; and I am persuaded he would have died much sooner, had he not constantly drank very freely of the most fine and generous wines, and daily used large quantities of asses' milk and antiscorbutic juices, well acidulated with juice of Seville oranges, lemons, &c.—*Huxham: a Dissertation on the Ulcerous Sore Throat.*

A VERY LOW DIET.

But leaving this controversy, it has often been objected that fruit and plants, and all other things, may, since the beginning, and as the world grows older, have universally become *effœte*, impaired, and divested of those nutritious and transcendant virtues they were at first endowed withal. But as this is begging the question, and to which we have already spoken, so all are not agreed that there is any the least *decay in nature*, where equal industry and skill 's applied. Tis true, indeed, that the *Ordo Foliatorum*, *Feuillantines* (a late order of ascetic nuns), amongst other mortifications, made trial upon the leaves of plants alone, to which they would needs confine themselves, but were not able to go through that thin and meagre diet. But then it would be inquired whether they had not first, and from their very childhood, been fed and brought up with flesh and better sustenance till they entered the cloister, and what the vegetables and the preparation of them were allowed by their institution. Wherefore this is nothing to our modern use of sallets, or its disparagement.—*Evelyn. Acetaria, a Discourse of Sallets.* 1699.

* Guy's Hospital Reports.

SEA-BATHING.

As to the contents and the peculiar powers of sea-water, I have explained myself on former occasions. I am also of opinion, that although the substances obtained from it by chemistry, especially the muriate of soda and muriate of lime, act strongly upon the human frame, still they by no means contain in themselves alone the whole efficacy of the sea-bath; for the sea being the dwelling-place of innumerable organic beings, obtains from their living and dying in it a quantity of fine animal and volatile matter, of which chemistry knows nothing, but which extraordinarily increases the stimulating power of the water.

The peculiar smell of the sea of itself bears witness to its presence, while the whole atmosphere receives from it a peculiar quality, which marks itself out by the special character of organic nature in marine districts, by the strength and freshness of the inhabitants, by the modification of their diseases, and by the healing power of such districts in other maladies; for example, in phthisis.

It even appears from late researches, particularly those of Hermbstädt, that muriatic acid rises in vapour and mingles with the atmosphere; and we may therefore assume with justice that, on the sea-coast, not only the water but the air is salt, and acts upon the frame with a special stimulus. These volatile particles, the external and internal life of the sea, the stroke of the waves, and the electric and magnetic streams thereby produced, together with the specially modified quality of the air, form a whole in which is to be sought the reason of the great and peculiar power of sea-bathing; and from which it is at the same time manifest, that the best saline bath, artificially prepared, and containing all the fixed ingredients of sea-water that are chemically known, is still not a sea-bath.—*Hufeland: Praktische Uebersichte der vorzüglichsten Heilquellen Teutschland.*

BOOKS RECEIVED FOR REVIEW.

On Granular Degeneration of the Kidneys; and its Connexion with Dropsy, Inflammatiou, and other Diseases. By Robert Christison, M.D. F.R.S.E. &c. &c.

A Letter to Dr. Chambers, F.R.S. K.C.H. &c. &c. on several important Points relating to the Nature and proper Treatment of Gout. By Sir Charles Scudamore, M.D. F.R.S.

The Principles and Practice of Ophthalmic Surgery; with the Treatment of its Diseases. By B. Travers, Esq., F.R.S., and J. H. Green, Esq., F.R.S. Edited by Alexander Cooper Lee.

A Text Book of Human Anatomy, designed to facilitate the study of that science. By Robert Hunter, M.D. Glasgow: second edition.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, December 20.

William Atkins, Deptford.—William Sanders, Gravesend.—William Cooper, Norwich.—Frederick Richard Chadwick, Long Ashton, Somerset.—Augustus John Marsh, Bath.—John Borrer, Portslade.—Mark Style, Thames Ditton.—Alfred Willmott, Sherborne, Dorsetshire.—David Barrow, Prescott, Lancashire.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *Dec.* 18, 1838.

Abscess	1	Gout	1
Age and Debility	32	Heart, diseased	3
Apoplexy	2	Hooping Cough	9
Asthma	8	Inflammation	10
Cancer	3	Bowels & Stomach	1
Consumption	25	Brain	1
Convulsions	15	Lungs and Pleura	5
Croup	1	Influenza	1
Dentition	5	Insanity	2
Dropsy	2	Liver, diseased	2
Dropsy in the Brain	4	Measles	4
Dropsy in the Chest	1	Mortification	1
Epilepsy	1	Small-pox	12
Erysipelas	1	Tumor	1
Fever	3	Unknown Causes	65
Fever, Scarlet	7		
Fever, Typhus	4	Casualties	6

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

December.	THERMOMETER.	BAROMETER.
Thursday . 13	from 39 to 44	30·19 to 30·20
Friday . . 14	36 45	30·24 30·26
Saturday . 15	30 41	30·23 Stat.
Sunday . . 16	28 42	30·23 30·25
Monday . . 17	28·5 35	30·25 30·23
Tuesday . . 18	30 37	30·22 30·19
Wednesday 19	29 36	30 11 30·08

Winds, N. by E. and E.

Except the 15th, generally cloudy; a little rain fell on the evening of the 14th.

CHARLES HENRY ADAMS.

NOTICES.

Although we do not always agree with the Editor of the Lancet, yet, with respect to Mr. Chandler's communication, we also must answer, that it is "inadmissible."

Neither can we give insertion to the letter signed "J. J. W." It is a great mistake to suppose that the fact of the Lancet having refused to insert a paper, is any reason for our giving it a place.

ERRATUM.—P. 430, c. 1, l. 32, *for* "fever," *read* "mania."

WILSON & SON, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, DECEMBER 29, 1838.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

On the Chemical Constituents of the Urine, and the modes of demonstrating them.

Before demonstrating the bases of the urinary salts, it will be, perhaps, as well to allude to a binary saline compound, mentioned by Berzelius as a constituent of the urine, fluate of lime (fluoride of calcium.) I have repeatedly examined the urine with the view of detecting fluorine, but have never been able to succeed. Once, indeed, I thought I observed a slight action upon the glass; but the evidence was so doubtful that I consider it still very questionable. The mode of examining this point consists in subjecting the solid matter obtained from the urine to the action of concentrated sulphuric acid. If fluoride of calcium be present, the water of the sulphuric acid will be resolved into its constituents; the oxygen will unite to the calcium and form lime, which will combine with the sulphuric acid, and thus form sulphate of lime. The liberated fluorine unites to the hydrogen, and forms hydro-fluoric acid gas, which escapes. We should be prepared with a piece of glass coated with wax, or some varnish, similar to that I now send round, and like it, having characters scratched through the wax by the point of a pin, so as to expose small portions of the glass. This, held in the escaping gas, will have the exposed parts corroded; for it is a peculiar property of the hydrofluoric acid to corrode glass which it does by dissolving the silex, which is a constituent of glass. I have here some fluor spar (fluoride of calcium.) I pour upon it some concentrated sulphuric acid, aud hold this piece of glass in the fumes; and you observe where it has not been coated and preserved from the action, that it is tarnished or corroded. It may help to impress this fact upon your memories to state, that it is by this means that the bot les used in your laboratories and surgeries are marked with the names of the acids and other corrosive fluids which they are intended to contain. I shall detain you no longer upon this subject, but pass on to the other bases.

Ammonia appears to be one of the constituents of human urine. It is mostly combined with phosphoric acid. In certain cases it is found combined with lithic acid, and even the carbonic acid. But in this last case the carbonate of ammonia seems to be derived from the decomposition of the urea, which, by the action of the mucus and fixed alkali, in which urine sometimes abounds, is converted into this salt-carbonate of ammonia. Ammonia is readily discoverable by saturating the acids in concentrated urine, by means of potass or quick lime. The ammonia is thus liberated, and if the urine thus treated be heated over the spirit lamp in a flask, ammoniacal gas will be detected, both by its *peculiar pungent odour* and by its action on moistened *turmeric*, or moistened reddened *litmus* paper; turning the first *reddish brown*, and restoring the *blue* colour to the latter. The precipitate also frequently contains ammonia, combined with phosphoric acid and magnesia. If this precipitate be heated with caustic potass, the ammonia is disengaged and rendered sensible by the means above

described. Here we have some urine concentrated by evaporation; here we have the precipitate; we add caustic potass to each, and heat them over the spirit-lamp flame; and you perceive by the action on the test papers, as well as by the pungent odour, that ammonia is disengaged; and this may be further established by allowing the gas to escape into a jar over mercury, and condensing it by hydrochloric acid gas; and you see hydrochlorate of ammonia condenses on the sides of the jar. Thus there can be no doubt that ammonia forms one of the constituents of human urine.

Potass.—The alkalies, potass, and soda, both exist in the urine, combined with sulphuric acid; and there is some difficulty in demonstrating them individually. Potass is distinguished by a few positive characters; but those of soda are to be considered, in relation to potass, as almost wholly negative. Potass, as well as its soluble salts, are precipitated by tartaric acid added in excess, when bi-tartrate of potass precipitates. A spirituous solution of chloride of platinum throws down a bright yellow precipitate, consisting of chlorine, platinum, and potass. Carbazotic acid throws down, even from very dilute solutions of potass, a crystalline precipitate of bright yellow colour: and all which you may see exemplified by the addition of the reagents to these three solutions of potass, as you observe.

The organic matters, however, in the urine will occasionally prevent the action of these tests. The urine therefore, if very dilute, should be concentrated, and acetate of lead added. The phosphoric and sulphuric acids, with the organic matter, will be thus precipitated. The excess of lead may be separated by a current of hydrosulphuric acid gas and filtration. If to the filtered fluid, somewhat concentrated by gentle evaporation, we add tartaric acid in excess, the potass will separate as *bitartrate* of potass; the bitartrate, ignited, will be converted into carbonate of potass, which, dissolved in distilled water, will give, with the reagents above noted, the indications already specified. Or the alkaline sulphates may be at once converted into *chlorides* of potassium and sodium by chloride of barium: sulphate of baryta will precipitate, and chloride of potassium and sodium will remain in solution; this last should be filtered, and evaporated to dryness. The chloride of sodium may be dissolved out by spirits of wine, containing about 60 per cent. of alcohol, and the chloride of potassium will remain behind undissolved. Further, the bitartrate may be converted into tartrate by solution in boiling water, and the subsequent addition of chalk, which removes one equivalent of tartaric acid; and the tartrate of potass converted into chloride of potassium by the addition of chloride of calcium. The chloride of potassium may be dissolved in water, and tested as already directed. The carbonate of potass is deliquescent, and thus presents a distinctive character compared with that of carbonate of soda, which effloresces on exposure to the atmosphere.

Soda has comparatively but one or two positive distinguishing characters, namely, the efflorescence of those of its salts which contain a sufficiency of water of crystallization; therefore we determine the salts of soda by no precipitate forming on the addition of chloride of platinum nor of tartaric acid in excess, nor carbazotic acid, &c., and by the efflorescence of its salts containing water of crystallization. Should the crystals be too much coloured, they may be decolorized by dissolving in distilled water, and digesting with animal charcoal. By slowly evaporating the bitartrate of potass thus treated, and obtained from urine, beautiful transparent and colourless crystals, such as you see here, may be obtained.

Soda and potass in the solid state may be distinguished from each other by means of the blow-pipe. To determine potass, Harkort directs us to fuse pure oxide of nickel into a glass by means of borax; if we add to this the substance containing the potass, the glass is coloured blue. Fuchs gives the following directions:—Fuse a portion of the salt on the platinum wire; if the flame be now so directed that the point of the interior flame may touch the fused bead, the exterior flame has a distinctly violet colour, as you will observe in the present case.

Soda before the blow-pipe is thus distinguished:—Oxide of nickel fused with borax is not deprived of the brown colour by the addition of soda. If we fuse soda on the platinum wire, and the point of the inner flame be directed upon the bead, the outer flame is coloured yellow, or of a reddish yellow,—as you see. Caustic potass and soda, dissolved in separate portions of alcohol: if the alcohol be set on fire, the flames are coloured characteristically, as you see in the present examples.

Lime is very easily demonstrated. All we have to do is to drop into urine, which may be previously decolorized by digestion with purified animal charcoal, oxalate of ammonia, or of potass; oxalate of lime precipitates, as you see. The decolorizing is not absolutely necessary, as you have just witnessed, but it is convenient. The oxalate is next to be ignited, by which means the oxalic acid is destroyed, and quick lime, or its carbonate, is the result, and remains. If the heat be

still further urged, the carbonic acid is driven off, and quick or caustic lime remains. The quick lime exhibits the following characters:—A portion, if treated with a little water, undergoes slaking, attended with the extrication of heat, and a hydrate forms. By the addition of more water, the hydrate dissolves, and the solution exhibits *alkaline* reagencies. Solutions of the alkaline carbonates, phosphates, and sulphates, produce in the solution of lime, neutralized by either acetic or hydrochloric acid, precipitates, consisting respectively of carbonate, phosphate, and sulphate of lime. All which facts you may now witness by the application of these tests to this solution of chloride of calcium, obtained by converting the oxalate of lime, precipitated from urine, into chloride of calcium—effected by acting on the oxalate, after ignition with hydrochloric acid, and you observe the effect.

Magnesia.—This substance forms a constituent of the urine, and frequently contributes to the formation of urinary calculi. It may be precipitated as an oxalate with the oxalate of lime. By ignition, however, it and the lime are both converted into carbonates. If we act upon these with a little diluted sulphuric acid, the carbonates will be converted into sulphates, with escape of carbonic acid gas. The sulphate of lime, however, being much more insoluble, will subside, while the sulphate of magnesia will remain in solution, and may be separated by filtration. In the powder before you, you see a mixture of the carbonates of lime and of magnesia, obtained by the decomposition of the oxalates. If I act upon them by diluted sulphuric acid, effervescence—as you see—takes place, and a portion of the powder disappears. What remains undissolved is sulphate of lime; and by filtering we obtain the sulphate of magnesia apart, and dissolved. On adding to the solution of sulphate of magnesia carbonate of potass, a bulky precipitate—as you see—subsides.

Magnesia is recognised before the blowpipe, on charcoal, by igniting, and moistening while ignited with nitrate of cobalt. Thus, if I take a paste of the carbonate of magnesia, which has just been precipitated, spread it upon this charcoal, and ignite it, on moistening the ignited assay with this solution of nitrate of cobalt, the mass, as you see, acquires a *pale red* colour.

Further, lime, if reduced to the caustic state, by sufficiently burning the carbonate, slakes, with the addition of water, and evolves great heat. On the addition of more water, the hydrate dissolves, and the solution exhibits an alkaline re-agency. Magnesia, on the contrary, does not slake, nor is it sensibly soluble in water. Thus the character of these two bodies are sufficiently distinct and characteristic.

Silex, according to Berzelius, exists in very small proportion in the urine. However, it is not always very easily demonstrable. I have examined urine frequently, and with very great care, with a view to detect this principle, and have occasionally succeeded; but much more frequently failed. Consequently I am inclined to believe that it is an accidental ingredient, and therefore its presence is only occasional. There are several methods by which silex may be detected. The urine may be evaporated to dryness, and the dry mass acted on by nitric or nitro-muriatic acid. The residue should then be washed, well dried, and ignited. The mass, after ignition, should be finely levigated, and ignited with about three times its weight of pure potass, in a silver or platinum crucible. On dissolving in distilled water, the silex may be precipitated as a gelatinous mass, by the addition of hydrochloric acid in sufficient quantity to saturate the alkali.

Silex, or silicic acid, as it is frequently named, before ignition, dissolves on being heated in a solution of potass, or even in solutions of the carbonated fixed alkalies. But after ignition, the solubility in these menstrua is greatly impaired, not unfrequently wholly destroyed. When the quantity is very small, and that we attempt to precipitate by diluted hydrochloric acid, it should be recollected that a portion of the silicic acid remains in solution with the hydrochloric acid. This is separated by evaporating to dryness, and then acting on the dried mass by distilled water; the silex remains behind. Silex may be thus occasionally demonstrated in the urine.

Silex is a very refractory substance, resisting, under ordinary circumstances, the action of almost all acids. Hydrofluoric acid is the only acid which readily dissolves it. Here is some very minutely divided silex, obtained by Faraday's process from glass. From this we may perhaps examine its most remarkable properties. It may be well, however, to premise that it may be obtained, of tolerable purity, by the following process:—Mix one part of powdered flints or quartz with three of potass, in a silver or platinum crucible, and apply heat till the whole is completely melted. The mass is next dissolved in distilled water, and the potass is to be saturated by hydrochloric acid, and the whole evaporated. As the evaporation proceeds, the solution becomes gelatinous, and ultimately, on complete evaporation and drying, a whitish mass remains be-

hind. This is well washed in distilled water, to wash out the chloride of potassium. The residue is then dried, and this is silex in tolerable purity. You see in the present case it is a fine white, but gritty powder. It has neither taste nor smell. It resists the heat of the blow-pipe, as you see. It is insoluble in water, and concentrated nitric acid and muriatic acid have no effect on it. It dissolves, however, very readily, as you see, in hydrofluoric acid, and it is owing to this solubility that glass is corroded by hydrofluoric acid gas, as already mentioned.

It is, however, upon its properties before the blow-pipe with reagents, that it is most readily distinguished. Silex, then, heated on charcoal before the blow-pipe, with microcosmic salt, does not dissolve in it. During ignition, the silex swims about in the fluid glass, forming a somewhat transparent inflated mass, as you will observe while I heat them. In borax, on the contrary, it dissolves, but still very slowly, as you will now observe. The most distinctive character, however, is its action with soda. If I heat some silex with carbonate of soda on charcoal, before the blow-pipe, you will observe first an effervescence, owing to the disengagement of carbonic acid gas, and the silicic and soda fuse into a bead of glass, which will retain its transparency on cooling, which you observe, and also that the glass is perfectly free from colour. Then, to sum up, the distinctive characters of silicic acid are, insolubility in all acids after ignition, except the hydrofluoric; its insolubility before the blow-pipe in microcosmic salt, and its ready fusibility with soda before the same instrument, into a clear colourless bead of glass; characters which remain after the glass has cooled: examples of all of which phenomena you have just had opportunities of witnessing.

The demonstrations or analyses which you have just witnessed may appear to you very complex, and may in some measure tend to dishearten you from pursuing such investigations. But though essential to thoroughly and perfectly demonstrate the chemical constitution of the urine, yet satisfactory evidence may be obtained by far less elaborate means—means, the action of which you will now readily understand, after so lengthened an examination. Indeed, most of the leading phenomena may be exhibited on a flat slip of glass, as practised by Dr. Wollaston. Thus, if upon this slip of glass I place two or three different drops of urine, to one I apply hydrochloric acid, and in sufficient time crystallized lithic acid is deposited; to another, if potass or ammonia be applied, phosphate of lime, or ammonio phosphate of magnesia, is deposited, which last salt attaches itself where the glass has been rubbed, and you see assumes a crystalline appearance. Thus a number of reagents may be successfully applied in this manner, and important conclusions, to be verified by subsequent examinations, may be deduced.

Having considered the general properties and constitution of both the blood and the urine, it may be advantageous to present a tabular contrast of the composition of the blood and of the urine, and of this latter both in the healthy and diseased states:—(*See next page.*)

On contrasting the composition of these two fluids, blood and urine, we cannot pass over the very great differences between them—differences, too, not only in the sensible qualities, but throughout nearly the whole chemical constitution. We find many principles in the blood which never exist in the urine, unless in the morbid condition of this fluid. We also find that some elementary principles which exist in the blood—phosphorus and sulphur, for instance—are converted into acidulous binary compounds, and ultimately united to the salifiable bases, forming either acidulous or neutral salts. We also observe that principles the generation of which seem to be peculiar to the functions of the kidney alone, are formed in the urine; such are lithic acid, urea; and in diseased conditions we find oxalic acid and sugar, cystic and xanthic oxides, &c. It is true that lithic acid is, in certain forms of disease, deposited in the joints, but such occurrences are mostly associated with disease of the urinary system.

On reviewing these facts, Dr. Prout observes that, as has been remarked by Berzelius, acidification appears to be the chief feature in the operation of the kidneys. "Thus," he says, "the sulphur and phosphorus of the blood are converted by the kidneys into sulphuric and phosphoric acids: a new acid, the lithic, is generated altogether."

With respect to the function of the kidney, it seems to be of much greater importance than the mere acidification of elementary principles. When we attend to the composition of two of these principles, urea and lithic acid, more especially the former, and its relative quantity, we must admit something of much more importance to the animal economy than mere acidification. The urine is purely an excretory separation, and therefore can neither be suppressed nor reabsorbed without the severest injury to the system. By an excretion*, we are

* Müller, in his Elements of Physiology, gives the following definitions of *excretion* and *secre-*

Blood contains:	Urine contains:	
	Healthy.	Diseased.
Water.	Water.	Water.
Albumen.	.....	Albumen.
Fibrin.	.....	Fibrin.
Red particles.	.....	Red particles.
.....	Urea.	Urea (or in excess.)
.....	Lithic acid combined.	Lithic acid, nitric acid, erythric acid, purpuric acid, oxalic acid, melanic acid, benzoic acid, carbonic acid, cystic oxide, xanthic oxide, Prussian blue? bile, sugar.
Lactic acid, with accompanying animal matters.	Lactic acid, osmazome soluble in alcohol, extractive soluble in water.	.....
Sulphur, phosphorus, chlorine, fluorine?	Sulphuric and phosphoric acids, chlorine, fluorine?	Sulphur, phosphorus.
Potass, soda, lime, magnesia, iron?	Potass, soda, ammonia, lime, magnesia, the metallic bases of the alkalies, and alkaline earths.	Ammonia and its carbonate, and alkaline earths in excess.
Silex?	Silex?	Crystallized.
Colouring matter.	Colouring matters.	Colouring matters.
Chyle.	.....	Chyle.
.....	Mucus of bladder.	Mucus (morbid), and in excess.
.....	.....	Pus.

generally to understand something separated or eliminated from the blood, and thrown off from the system, as either useless or injurious. Urine agrees perfectly with these characters, for, as already observed, it can neither be reabsorbed or suppressed without the most serious consequences.

Urea, like all organic products, consists of oxygen, hydrogen, and carbon, and resembles the animal class, in containing, in addition, nitrogen, or azote.

Urea has been analyzed by Dr. Prout, and the results, as recorded by different authorities, gives in one hundred parts of urea as follows:—

100 urea yield,	Nitrogen	46·65	46·66
	Carbon	19·97	19·99
	Hydrogen	6 65	6·66
	Oxygen	26·65	26·66

On examining the above we must be struck with the very large proportion of nitrogen which enters into the constitution of urea, forming very nearly one-half of the entire compound. It also contains a very considerable proportion of carbon; this principle with the nitrogen forming nearly two-thirds of the entire composition. We know that nitrogen and carbon are principles incapable of supporting animal life, and, in fact, exert a deleterious influence upon the blood; we are, therefore, entitled to assume that a principal operation of the kidneys is to rid the system of these two noxious principles; and consequently their function is analogous to both that of the lungs and the liver; the former of which purges the system of carbon, and the latter of nitrogen. Acidification, therefore, we must look upon as

tion. The matter separated from the blood by the action of a secreting organ are:—1. Substances which existed previously in the blood, and are merely eliminated from it; such are the urea, which is excreted by the kidneys; and the lactic acid and its salts, which are components both of the urine and of the cutaneous perspiration. These are called *excretions*; and the process of their separation from the blood, *excretion*. The excretions which are met with most generally in the animal kingdom, namely, by the urine, and the fluid perspired by the skin, are in the human subject acid; but all excretions are not acid, as Berzelius formerly supposed, for the urine of some herbivious animals is alkaline, as are also some of the excretions peculiar to several animals; for instance, the acrid matter excreted from the skin of the toad. 2. Substances, which cannot be simply separated from the blood since they do not pre-exist in it, which, on the contrary, are newly produced from the proximate components of the blood by a chemical process; such are the bile, the semen, the milk, mucus, &c. These are called *secretions*."—*Baly's Translation*, p. 429.

an operation of secondary or minor importance, while the purification of the system constitutes the principal function of these organs.

LECTURES

ON

TUMORS OF THE BONES,

Delivered at St. George's Hospital,

By Mr. Cæsar Hawkins.

I.—*Encysted Tumors of Bones.*

1. *Hydatid Encysted Tumors.*
2. *Serous Encysted Tumors.*

II.—*Exostoses.*

1. *Osseous or Laminated Exostosis.*
2. *Cartilaginous Exostosis.*
3. *Ivory Exostosis.*

We have not time, in our present course of a hundred Lectures on Surgery, to discuss every subject in equal detail. On some parts this minuteness is less necessary, because there is some well-written work to which we can refer you for future study. On other subjects a great deal has been written, but not well written, and more pains are necessary on our part to guide you through the confusion you will meet with in your reading. Of some other subjects, again, very little is known, and more detail is required to explain to you what we have ourselves worked out to clear our own way in practice.

Both the two latter qualities characterise the subject of the tumors of the bones, the account of which in surgical works is, on the whole, very unsatisfactory. I purpose, therefore, in the present season, to enter into a more detailed account than usual. As with other tumors, a good deal of confusion has arisen from the same names being employed in different significations. For example, there is an excellent paper by Sir Astley Cooper, which he has published with some other essays by Mr. Travers and himself, which, like every thing else from his pen, contains a good deal of practical information. In this essay he divides all tumors of bones, in accordance with their origin from the outer covering or the cancellous structure, into *periosteal* and *medullary* tumors. But what will you usually understand by a medullary tumor of a bone? Doubtless one form of fungous disease, of a malignant nature—the medullary or encephaloid, from its resembling brain; yet Sir Astley was well aware of there being different tumors, all arising from the medullary membrane, some of which only are fungous and malignant.

So, again, with regard to the essential nature of tumors of bone, Sir A. Cooper only adopts two divisions, which he calls the *cartilaginous* and *fungous*, which are nearly equivalent in their course to the terms innocent and malignant; but there can be no doubt that malignant tumors of bones are sometimes quite hard, and fibrous and cartilaginous in their origin; while other tumors may shoot out a most luxuriant bleeding fungus, and yet have nothing malignant in their nature, so that they do not affect the absorbent glands, nor the constitution, so as to occasion a return of the disease in any other part after the removal of the original tumor.

You will recollect that all the results of mere inflammation, or simple solidification, are to be excluded from the definition of tumor. Here are examples of periosteal and osseous nodes, forming considerable elevations, which are often called *exostoses*. Here is a large bone with numerous irregularities on its surface; and in this preparation you may see the interior quite solid where there ought to be cancelli, presenting an example of what is called *enostosis*. But all these alterations of structure are the effects of inflammation, which are subject, to a certain extent, to medical and local treatment, and may altogether disappear. In a case of necrosis of the lower jaw, for instance, you may see a large swelling, an inch thick, round the original bone; but remove the dead bone, and this swelling, as large as the fist, may be absorbed, so as to restore the natural form of the part, as soon as its local cause is taken away. A tumor, on the contrary, is the result of a new action, which is scarcely ever much obedient to remedies; it may sometimes be absorbed, from some cause as much unknown as its origin, but seldom in consequence of our remedies.

The tumors of bones originate (like inflammation), sometimes from the periosteum, at other times from the vessels of the medullary membrane in the cancelli, so that they may be situated entirely on the outside, or on the inside of the bone; but just as in this enlarged and inflamed bone all the texture is affected, so that you cannot tell where the inflammation commenced, so is it also with tumors; they may begin exclusively in one part, but generally spread from one part to another, so that it is impossible to describe the tumor as being periosteal or medullary, to use Sir Astley Cooper's terms.

The tumors of bones are analogous in many respects to those of the soft parts; I divide them, you may some of you recollect, into three divisions:—1st, the *encysted*

tumors, in which a cyst of fluid forms the chief characteristic; 2dly, the *osseous*, of which bone forms a main feature; and 3dly, the *sarcomatous*, in which the proportion of solid substance is so considerable as to give a character to the tumor. So also is it in the bones: you have 1st, *encysted tumors of bone*; 2dly, *exostoses*, of which bone is the chief ingredient, or the cartilage, which is the nidus in which most bones are formed; and 3dly, *osteosarcomatous tumors of bones*, in which there is more or less osseous material, but mixed with a large proportion of other solid structure.

I.—First, then, of encysted tumors, of which (independent of local causes) we only meet with two genera like those of the soft parts—viz. 1. Hydatid encysted tumors; 2. Serous encysted tumors.

I.—1. The Hydatid tumors contain entozoa, of the same kind as those which are met with in the liver and other soft parts; and they are developed chiefly in the cancellated structure, as they are also in the cellular membrane of the soft parts. It is possible, however, that they may form in a cyst under the periosteum; for in opening an imperfectly-formed abscess connected with this diseased elbow, which I afterwards amputated, I let out five or six rounded bodies, in every respect like small hydatids in appearance, in contact with the ulna, but without any connexion with the joint, nor apparently with any bursa.

It would appear that the hydatids form a bed for themselves in the cancelli, and that one or more membranous cysts are generally developed around them, the hydatids themselves being contained within, but not attached to the cyst, to the number of a hundred or more in this preparation: in which there were some also without any regular cyst around them. As the cyst and its secreted fluid, with the hydatids floating in it, increases in size, the outer shell of bone is expanded, presenting a smooth and not very irregular surface of thin bone, or bone mixed with membrane, which yields in some parts, so as to give a sensation of crackling, like parchment.

Such was the appearance in the young woman from whom these casts were taken, and who was in this hospital some years ago, under the care of Mr. Keate. The tumor was about four inches and a half by four in diameter, and had been forming for six years, but had latterly occasioned symptoms of internal pressure and irritation, intense headache, vertigo, and so on. Mr. Keate detected the fluid cyst, and laid it partially open by operation, and subsequently endeavoured to destroy the cysts by kali purum, which occasioned some tedious exfoliation, after which it was allowed to heal. Two years afterwards the cyst, which had continued to discharge a thin limpid fluid occasionally, was observed to be spreading under the outer table of the bone, and was therefore again laid open more extensively; and now, for the first time, hydatids came away from several cysts, about twenty-eight altogether thus escaping. All the bone was removed which covered the cysts, and in time the parts healed, leaving the cavity you may see in this other cast; and the patient continued free from the complaint, and in good health, twenty years after the operation.

Now this appears to teach us practically that we may sometimes expose the cavity, and if there is more than one cell, that the whole must be freely opened, and that till every part is destroyed (the containing cyst, as well as the hydatids), there may be a fresh generation of these bodies. It informs us also that the operation may be sometimes successfully performed even in the cranium, and that hydatid encysted tumors are not in themselves dangerous.

But we must not always expect the operation to be thus successful. Sir Astley Cooper, according to his essay, has only met with one case of hydatid tumor of bone under his own observation. This was a tumor of the tibia, soft, and diminished by pressure, some of the fluid being probably absorbed in which the hydatids were floating. The tumor was opened by Mr. Lucas, and numerous hydatids evacuated; but such violent constitutional disturbance ensued that the limb required to be amputated. When large, therefore, and the bone much excavated by the growth of the tumor, immediate amputation or entire removal of the affected bone is probably to be preferred to an opening of the cyst.

Sometimes, however, the hydatids must be altogether inaccessible; as in the case from which this preparation was taken. You may perceive a cyst chiefly in the spinous process of one of the dorsal vertebræ, which is almost entirely destroyed, and the sac has thus laid two of the foramina for the nerves into one, in which a cyst was contained, having above a hundred hydatids within it, while there were also a few others in the cancelli elsewhere. The bone around the cyst is perfectly healthy, but the tumor projected inwards upon the spinal marrow. The patient, in consequence of this tumor, had some of the symptoms of diseased spine for several years, with a projection of the spinous process, somewhat like that of caries.

Thus, then, the hydatid encysted tumor is an innocent tumor, sometimes curable by operation, but it is very rarely met with in practice.

I.—2. The second genus of encysted tumors of bones, are the serous or cellular tumors, as they are sometimes called. Like the serous encysted tumors of soft parts, they occur in the cellular—*i. e.* the cancellated structure; the shell being expanded by the growth of one or more cysts, the osseous structure sometimes projecting inwards, so as nearly to divide the cyst into separate partitions, while the rest of the bone retains its natural appearance. The disease is, in fact, a mere expansion of the sides of the bone, as you may here see, into an osseous cyst, or the shell of the cyst is partly bony and partly membranous. The contents are either a simple watery or slightly mucilaginous liquid, transparent or coloured, and sometimes opaque, like currant jelly; or a semifluid substance, like adipocire, steatomatous; or sometimes a more solid, brittle, soft, yellow substance, which has no adhesion to the cyst, and is evidently a secretion, though it looks at first, on being opened, like a solid tumor of malignant character. Dupuytren calls the tumor *fibro-cellular*, which appears to me a bad name; since the fibrous structure, which he compares to the tumors of the uterus, is rarely met with in cysts of the bone. Dupuytren, as usual, claims the credit of their discovery. "Il y a deja longtemps, que j'ai demontré pour la premiere fois, &c." In reality, however, they have been better described previously by Delpech and other writers. These encysted tumors of bones are doubtless one of the forms of disease which you will find described under the old name of spina ventosa, which includes also, however, abscesses and cavities in the cancelli, formed from want of use of a limb.

The situations in which these cysts are met with are sometimes the ends of long bones, but most frequently the upper and lower jaw-bones. Dupuytren has met with the disease in the vertebræ. I think I have seen it in the scapula also, but not opened to verify the fact.

The serous encysted tumors of soft parts are often called hydatids, which they resemble in some respects, but in the bones there is seldom a lining membranous cyst capable of separation from the bone, so as to produce the same resemblance in that texture to what you find elsewhere. There is, however, in the Museum of the College of Surgeons, the humerus of an ox, "whose medullary cavity is filled with a glossy semitransparent cyst, resembling an hydatid, which contained fluid." The cyst is about twelve inches long, and nearly three broad at one part, where it projects through a hole made by absorption in the bone, and it has two prolongations into the condyles, each nearly three inches long. It is almost loose at present, and certainly looks very like an hydatid, though the words (I believe of Mr. Hunter) which I have just quoted, would shew it to have been probably a serous cyst.

These tumors sometimes arise from blows; but as they so frequently occur in the jaws, they would seem in that situation to arise from some peculiar affection of the teeth in the cellular structure at the bottom of the alveolus; and their origin is shewn in an early stage, by the cyst being sometimes drawn out entire with the tooth, which is perfectly sound, though painful, or has a little portion of solid bone at the root of the fang. If it is at the side, the alveolus is absorbed, and there is a little hole which opens and discharges; or it suppurates and becomes fistulous, and incapable of healing till the cyst is destroyed. More frequently the cyst is between the laminæ of the alveolus, and forms a tumor in the jaw below the teeth, the sides of the jaw being expanded on one or both sides. When the tumor has grown to the size of this preparation of the lower jaw, its origin cannot of course be determined, though it doubtless arose from the same cause. In one instance, Delpech punctured a cyst containing as much as three ounces of liquid in the upper jaw, and yet the cyst was still quite separate from the cavity of the antrum, the floor of which was pushed up by the growth of the tumor below, which was connected with the canine tooth. You will find, by and by, that the antrum also often becomes distended with fluid, in consequence of the irritation of a tooth which has not perforated the gum.

The symptoms produced by a serous cyst in a bone are some inconvenience, and sometimes a little pain; but it is on the whole an indolent tumor, whether in the chin or side of the jaw, or cheek, or tibia, which is smooth, and generally elastic, even when of small size, though sometimes it feels as though it were quite solid bone. When of a large size, the cyst may become quite membranous in parts, or more usually it is partly bony and partly cartilaginous, so as to crackle under pressure like parchment. When in the upper jaw, it cannot always be distinguished from enlargement of the antrum, and in either jaw it occasions considerable deformity; and from the appearance of what is before you, containing many ounces of fluid, you may easily understand that it will interfere materially with speech and mastication, respiration and deglutition. It does not affect the teeth, however, and the skin retains its natural appearance, and it has scarcely any disposition to inflammation. The mixture of bone with elastic substance gives the tumor some resemblance to fungus hæmatodes; but the

crackling of the cyst is generally a good distinction, as the circumference of a fungous tumor seldom possesses enough cartilaginous and bony material to produce this sound, however elastic it may be. In all doubtful cases, however, you will do well to puncture the tumor, to ascertain if there be a fluid within it. Serous encysted tumors may occur at any age. I am now attending a child of five or six years of age, with a small one; and they are most common in young persons about the jaws, as you might anticipate from what I have mentioned of their pathology. The operation was performed on the patient from whom this jaw was taken at forty-five years of age.

The treatment of serous encysted tumors of the bones is the same as that of the same tumor in soft parts, but must vary according to the size and situation of the tumor. I can only speak myself, however, of those of the jaws, but I conceive the same principles should guide us in those situated elsewhere.

1. They may in the first place be cured by the extraction of the tooth or teeth situated above them. I have seen within these few months a young lady, with Sir Benjamin Brodie, who was just beginning to change her teeth, and had a tumor about the size of a walnut below the two right incisors. We agreed to try the chance of the removal of the teeth, which were still firm, and Mr. Nasmyth extracted three of them, one of which probably communicated with the cyst, as there was a discharge of watery fluid for about three days; the slight pain and thickening of the membrane over the tumor, which generally accompanies its rapid growth, subsided in a few days more, so as to diminish the prominence of the cyst when looked at through the lip, and in four or five months the bony parietes returned very nearly to their natural shape. The same thing may sometimes be done in an adult, but it would be wrong, if the teeth are sound, to extract them unnecessarily, as the tumor may be cured without their loss.

2. The cyst may be opened, which is generally easily done with a strong curved knife, such as I here shew you, as the shell is thin or semicartilaginous: and the whole of the covering should be removed, if the tumor is a small one, or a large opening made in the centre, where the cyst is very extensive; and this opening may be made from the mouth, so as to avoid all scar, the membrane being first separated from the surface of the cyst. Into this opening a little lint may be inserted, to prevent the food lodging in the cavity, which should be changed from time to time. The secretion of the cyst soon becomes purulent, and may be washed out by injecting some warm water; and if the lining is thick, and indisposed to change its action, the stimulus of a little sulphate of zinc or caustic will hasten its obliteration, which is effected partly by granulation and filling up of the cavity, but chiefly by the slow modelling process of interstitial absorption. In this manner the walls of a very large tumor are removed in the course of half a year or more, so that you would scarcely recognise the features of your patient.

3. If the lining membrane be very tough and fibrous, such as Dupuytren seems to have found more often than other surgeons, it must be destroyed completely by stronger applications, such as kali purum, nitric acid, or the actual cautery, and the separation of the cyst in this manner will necessarily be often followed by exfoliation of part of the bone. I do not think, however, that this method is often required.

4 Where the contents of the cyst are of a half-solid consistence, it must be carefully scooped out, and the surface destroyed in the way just described, the sound bone around it being exposed; and I should recommend its being very carefully examined both at the time of the operation and subsequently to it, lest an error should have been committed, by one of the cysts of a fungous tumor being mistaken for a serous cyst.

5. But lastly, if there is any doubt in your minds as to the nature of the disease, or if the bone is materially altered by the growth of a very large tumor, its removal or amputation becomes sometimes necessary. In this very large cyst of the lower jaw the operation was thus performed by Sir Benjamin Brodie a few years ago in this hospital, on a woman 45 years of age, whose disfigured appearance previous to the operation is seen in the cast. This very large tumor had commenced 18 years before, as a small hard lump, which six months previous to the operation had only attained the magnitude of a hen's egg, but then increased with great rapidity, and was as large as the fist, and reached from the incisor teeth to the condyle, and materially interfered with the various functions of the mouth. About four ounces of transparent fluid were evacuated in the operation, which consisted, as you may perceive, of the division of the bone near the centre of the chin, and its disarticulation from the glenoid cavity; it was attended with very great hæmorrhage from the internal maxillary artery, and the external carotid was tied while she was quite faint from loss of blood. The patient went on very well for a few days, when she was unfortunately attacked with fatal erysipelas.

The excision of a part or even of the

whole of the upper or lower jaw bones, is an operation which has been very often performed of late years; nor is it difficult or dangerous in its execution in general, in properly selected cases. For this particular disease, however, the whole thickness of either maxilla is very seldom required to be removed, as the bone itself being healthy in its structure, the cuts in the bone may commonly be so made, by perpendicular incisions met by a transverse one, or by some other modification, as to save the base of the lower jaw, or the more intricately connected parts of the upper, and so to preserve much of the natural form of the part, after the recovery of the patient. It is performed by various forms of small saws, and cutting forceps, of which you may here see several, adapted to different shapes and situations of the tumors, and it is unnecessary to detain you in speaking of the operation itself, which will be in part shewn you by and by.

Let me caution you, however, not to undertake these operations on the supposition of their being solid bony tumors, till you have very carefully ascertained that the case in question is not one of these serous encysted tumors: always puncture them before the operation, lest the parietes being osseous, and therefore not crepitating on pressure, should have made you erroneously imagine you had a solid tumor to remove. M. Gensoul, of Lyons, in a very good essay upon tumors of these two bones, describes with great candour one case, in which he had actually made his external incisions of the cheek, for a supposed solid tumor of the superior maxilla, when he fortunately opened the cavity of the antrum in doing so, and the fluid contents escaping, he recognized the glairy secretion of this cavity, with the canine tooth adherent to the bottom, and thus saved his patient from the remainder of a very severe operation. The same mistake may easily be made with serous cysts, as with this, which may be called the *mucous encysted tumor* of the antrum. In a doubtful case, therefore, it will always be a wise precaution to remove a portion of the outer shell of bone first, so as to enlarge it, if the contents prove to be fluid, and so effect a cure; or to go on with the excision, if the interior of the tumor proves to be of a solid nature.

I have mentioned that I can say nothing from my own observation of serous tumors in other bones, but I presume they are to be subjected to the same treatment; that is to say, to a free opening if of moderate size, and to amputation if they occupy much of the interior of the bone.

II.—The second order of tumors of the bones are the *exostoses*, consisting entirely of osseous structure, or with a certain mixture of that cartilaginous texture out of which natural bone is chiefly formed; and the exostoses differ from each other according to their degree of consistence, so as to be divisible into three genera, the osseous, cartilaginous, and ivory exostoses

II.—1. The *osseous* or *laminated exostosis*, is a growth from a bone, having the outer lamellæ and the cancellated structure of that bone expanded as it were;—the exostosis being very nearly of the same texture as the rest of the bone from which it grows, but generally with a somewhat thinner laminated shell, and less numerous cancelli. Immersed in acid it shews no difference from the rest of the bone, having the same firm animal substance as the nidus for the deposition of earthy matter. It is a kind of addition, (like the trochanter when perfectly formed) arising from some disturbed action in the vessels of the bone, differing however from ordinary inflammation. The exostosis is sometimes (as you may see by these diagrams), *a*, a broad expansion of the affected part of bone,—*b*, sometimes it is a rounded tumor, attached by only a narrow pedicle to the bone, in which case the cancelli of the neck of the tumor are often obliterated;—*c*, sometimes it has an arched form, there is a double root attached to the bone, while the intermediate part of the original bone is of its natural size;—*d*, sometimes again the outline of the tumor is very irregularly formed, with several projections.

The osseous exostoses are met with in various situations; in fact, almost every bone has been seen to form them—the long or flat bones, the large or small ones, the face, the orbit, the vertebræ, the ribs, the pelvis, the extremities; but it is on the femur and tibia that they most frequently occur: on the femur near the insertion of the triceps to the inside of the bone—on the tibia near the insertion of the gracilis and sartorius muscles.

Their number varies very much, several being often seen on the same person. I recollect a girl in this hospital under Mr. Keate's care, with an exostosis nearly of the size of a swan's egg on one fibula, with a sharp one on the femur, another on one radius, and a fourth on the metacarpus; and I remember another patient of Mr. Eubank's, who had eight or nine exostoses, and, what was curious, several of these were on exactly the same part of the same bone of the two sides—the two radii, ulnæ, and fibulæ.

An osseous exostosis is not generally difficult to discover, even at a considerable depth; occasionally, however, they are covered by a bursa to protect the muscles from injury, giving a greater degree of softness to the tumor; and I have known

them appear to be moveable, when under a tendon. Sometimes, on the other hand, a soft tumor bound tightly down by periosteum appears to be formed of bone, especially when deeply situated in the orbit *. I remember a boy who came into this hospital under Sir Benjamin Brodie, and an operation was begun as for the removal of an exostosis in the upper part of the orbit; but when the incision was made, there appeared this piece of burnt wood, nearly an inch long, and half an inch wide, to the great astonishment of the patient, who was aware of having received a blow by an explosion from a torch, I think a month before, but had no idea that any thing had penetrated the skin.

Exostoses are in themselves innocent, and of no importance, the effects they produce depending on their situation: they usually occasion little pain or inconvenience; but sometimes, when accidentally inflamed, or when growing rapidly, the pain is considerable; so also is it when the muscles are much stretched. They are usually found near tendons, which have their action impeded by them; sometimes with much pain. I have seen a man with an exostosis on the fibula, and the nerve being stretched by the tumor, it used to occasion so much pain as quite to throw him down. This portion of cranium has several small exostoses on its inside, and was taken from a woman in this hospital, who had been subject for some years to epilepsy, occasioned perhaps by these irregularities of bone, as they have been met with in similar cases. Sir Astley Cooper describes a case of exostosis of the fibula, which quite inclosed the peroneal nerve, occasioning paralysis below, and requiring the division of the nerve in the operation. I have heard of a case some years ago in which the attendants expected to be called on to perform the Cæsarean section from an osseous tumor in the pelvis, from its so much impeding the process of parturition. Pelletan met with an exostosis of the pubis produced by the blow of a chair, in which his patient was not pregnant indeed, but every attempt to become so occasioned such horrible pain that an operation was performed for the removal of the tumor. Sometimes, again, an exostosis of the pubes has interfered with the discharge of water through the urethra. A curious case has been published, which you will find in Dr. Mackenzie's valuable work on the Eye, in which the whole circle of the bones of the orbit formed a kind of exostosis four fingers breadth in height, with the eye deeply sunk in the centre; and the same author has witnessed a case of protrusion of the eye, which caused such violent pain of the head and eye, that the eye was extirpated; an exostosis being then seen at the bottom of the socket, which very prudently was not meddled with. Such effects may, of course, be occasioned by either kind of exostosis.

When an exostosis has once formed, it may increase to an indefinite extent; but an osseous exostosis seldom acquires any great size, and very often ceases to grow, and remains of the same bulk for the rest of the patient's life. If very large, the skin sometimes, but rarely, ulcerates over the tumor, but not unhealthily.

II. 2.—*The cartilaginous exostosis* is not so common as the last, and varies more in its mode of origin.

a. Sometimes it grows from the periosteum; and in that case has a central basis of somewhat harder bone, of more imperfect figure, and with less cancellated structure, than the osseous exostosis; but in addition to this, the bone has a cartilaginous covering, varying in thickness from a thin layer to an inch or more in depth; the cartilage being half gelatinous and semitransparent, and the periosteum is very imperfectly traced over it, and into its substance.

The cartilaginous exostosis affects the same situations as the last form. Here, for instance, is a very good one from the inside of the femur. Sir A. Cooper says he has never seen an exostosis of the scapula, but the Medical Gazette lately has contained an account of one of the cartilaginous kind on that bone. Even the os hyoides generates this form of exostosis, according to a case in Dr. Warren's work on tumors.

It is remarkable that they are generally single, instead of being so numerous as the osseous variety; but not always so; for the lad from whom this tumor was removed from the thigh had two or three of the same species. Here is a curiously irregular cartilaginous tumor, which I took after death trom a man who had an ulcerated hip-joint, the irritation of which had produced the tumor on the pubes, over which the vessels were raised to a considerable height, with pulsation apparently in the tumor. The diagnosis of the cartilaginous exostosis is not quite so easy as that of an osseous one, from the soft covering it possesses, in consequence of which a bursa is not formed over it. Still it can generally be discovered by its figure and attachment, with a hardness greater that of an osteosarcomatous tumor, and less than that of an osseous or ivory exostosis.

b. There is a second species of cartila-

* Such a case, for instance, is described by Dr. Mackenzie, a scirrhous tumor of the orbit being operated on with the idea of its being an exostosis.

ginous exostosis, which is not described as such to my knowledge, and which appears to me to arise also from the periosteum in the first instance. This macerated preparation shews you an apparently simple enlargement of the humerus in the greater part of its length, and in its whole circumference, which, with the cartilage, formed a large irregular mass in the arm of a patient of Dr. Hewett, in this hospital, who never made any complaint of it, and in whom it was accidentally discovered after death. It is now, as you may perceive, double the size of the other; but when I took it away the mass of irregularly shaped cartilage which covered it, and filled up the cavities of the bone, made it altogether as large as the fist in the middle of the bone, gradually tapering towards the condyles and the head. You may satisfy yourselves that there is a quantity of new bone round the original shaft, which is nearly of its proper size; and that the mass around it is not merely the result of inflammation is evident from the quantity of cartilage on the surface, and from the entire absence of symptoms of inflammation; at the same time the morbid action has extended into the interior, so as almost to obliterate the cancelli by osseous deposit. Very nearly at the same time that this fell under my notice I saw another very large tumor of apparently the same kind in the same bone in a patient of Mr. Keate's, the upper half of the bone being here affected, so that it could only have been removed at the shoulder-joint: he, too, had never suffered the least pain or other sign of inflammation, and had the perfect use of his arm. This general enlargement round a bone is most often seen, however, in the smaller bones, as the phalanges of the fingers and toes, several of which are often affected at once. Here is a finger which I amputated lately, of which the first and second phalanges form a large mass of cartilage and bone round the original ones, the joints being perectly healthy, but the original phalanx is in part absorbed, and its place, both shell and cancelli, occupied by new cartilaginous substance. In this humerus there is in the centre a bony exostosis, while here the central portion is cartilage; but occasionally the diseased action does not extend at all into the interior, for I have seen examples of new osseous formation, probably of this kind of disease, in which the new bone was quite loose, and revolved round the original bone, to which it had been attached by periosteum or other soft substance only; its moveableness shewing completely the origin of the tumor from the periosteum.

c. But while ths osseous exostosis grows only from the periosteum, the cartilaginous species may, in the next place, originate solely in the cancellated structure of the interior of the bone, forming an irregular mass of new substance of the same soft yellowish white or nearly transparent cartilage as that which covers the bone of the periosteal cartilaginous exostosis, the shell being expanded to contain the new substance. It is perhaps owing to the original disposition of the vessels of the cancelli that this internal cartilaginous tumor has very little bone in general, I believe, compared with the quantity of bone in the external periosteal forms of the disease. I recollect some years since an operation performed by Sir Benjamin Brodie, in a little girl of 12 years of age, for a large swelling of the lower jaw, formed by one of these internal cartilaginous tumors; the outer shell of bone being removed, the tumor, about two ounces in weight, was dug out of the bed in which it lay. This appeared a very formidable operation, from the great hæmorrhage, producing fainting, that obliged the proceeding to be twice stopped till she had recovered, though no important part was involved; and it was curious to see how soon the jaw began to be remodelled in its shape.

d. There is, in the fourth place, a preparation in the museum of the College of Surgeons, of a cartilaginous tumor growing from the æthmoid bone, which shews that even the delicate periosteum and mucous membrane of that part is capable of forming such a kind of exostosis: it is of the size of a nut, and is accompanied with fibrous polypi of the nose.

I told you just now that Sir Astley Cooper divides all tumors of bones into cartilaginous and fungous, including all that are not malignant under the former name, and believing that the origin of all exostoses is a "deposition of firm cartilage, similar to that which forms the nidus of the original bone in the young subject;" and that within this cartilage osseous matter is thrown out, at first from the surface of the bone, then in the mass, as the cartilage increases in size; a layer of cartilage always preceding the deposit of bone, and when the process has ceased, there being only a layer of bone, but no cartilaginous covering; this remark being applied also, I believe, by him to some osteo-sarcomatous tumors also.

If this opinion were true, the cartilaginous exostosis, which I have described, would only be the early stage of the osseous; but I must differ from this opinion. It is not, however, in the first place, from cartilage that all the bones are originally formed; witness the growth of the flat cranial bones, so that the precedence of cartilage is not necessary to the deposition

of bone. Look to the formation of nodes again, and you will find pieces of bone which are either loose in the periosteum, or attached to the bone; but the periosteum, instead of being cartilaginous, is fibrous, with fluid in its texture, very like the membranes of the cranium while ossification is going on. That some cartilaginous tumors may be osseous I do not deny; but I am persuaded that I have seen several osseous exostoses, while still growing, closely covered by periosteum, like a natural bone, without any intervention of cartilaginous matter; and I believe that the animal matter in which the bone is in them deposited, is rather a tough fibrous substance, like thickened periosteum, than the soft cartilage of the cartilaginous exostosis. I believe, in short, that the small osseous exostosis is perfect from the first, without any cartilaginous matter. Even if I could entertain any doubt with regard to this in the osseous exostosis, there can certainly be none with regard to the next species, the ivory, in which no cartilage can at any time be detected, while it is still obviously growing; and there is no more necessity for it in the one case than in the other. I may also allude to the usual though not invariable contrast between the two species; the single cartilaginous exostoses, compared with the numerous osseous exostoses in the same individual, as some evidence of difference in origin, though perhaps the circumstance does not deserve much weight.

II.—3. The third species is the *ivory exostosis*, which is exceedingly dense in its structure, and of a high specific gravity. Its hardness will be evident from this example, which, although scarcely more than an inch in diameter, required, I am told, an operation of above an hour's duration, which was supported with great patience, and spoiled more than one saw before it could be sawn across. At the same time its composition is not very different from that of ordinary bone, according to a recent analysis of a tumor of this kind, compared with that of bone by Berzelius.*

	Healthy Bone.	Ivory Tumor.
Animal matter	33·30	28·57
Phosphate of lime, magnesia, &c.	54·20	68·88
Carbonate of lime, alkaline chloride, &c.	12·50	2·00
Loss	00·00	00·55
	100·00	100·00

That is to say, if you examine the table behind me, the difference is chiefly in the proportion of carbonate of lime, which is almost the same in the ivory exostosis as in the teeth, compared with ordinary bone.

The ivory tumor is seen best where it is most common, in the bones of the cranium, as in this preparation, where a tumor is seen growing in the frontal and parietal bones, evidently originating in the diploe, the tables being absorbed, both externally and internally, by the projection of the tumor, and a thin edge of the tables being seen at the margins of the aperture which is thus formed. I have observed that the cartilaginous exostosis of cancellous structure has generally less osseous matter than that which derives its origin from the periosteum; and Mr. Lawrence, in his Lectures on Surgery, has expressed a doubt whether the cancellated structure ever forms a really osseous tumor. It is curious, however, that this, the most dense of all osseous tumors, is most frequently formed by the diploe or cancelli of these bones, instead of being formed in the membranes and tables of the skull.

I lately saw a tumor, which I believe to be of this kind, in the forehead of a gentleman, of the size of a nut, which had already been growing for several years; and it is generally, as you might expect, very slow in its progress, producing no pain, though liable to acceleration of rapidity by blows exciting inflammation. If it grows internally, as in the skull, it occasions irritation of the brain, and ultimately fatal symptoms in that organ, which was the case in the lady from whom this portion was removed.

Here are two other preparations of ivory tumor taken from the orbitar plate of the frontal bone, at the edge of the orbit; and I well recollect the peculiar expression given to the features, by the proptosis and deformity they occasioned in the two young men from whom they were removed in the hospital.

Next to the cranial bones, the situation in which the ivory exostosis is most frequently formed is in the superior maxilla, around the antrum, where the ivory substance is sometimes deposited more loosely, as if crystallized, with partitions of animal matter, or sometimes mixed with cartilage, and growing to the size of the fist or more. In the first volume of the Guy's Hospital Reports is the account of a very curious case of this kind (or you may see the casts in their museum,) where a mass of ivory tumor spontaneously separated from the face, weighing 14¾ oz., and leaving, as you may imagine from the plate, a hideous excavation in the face. The most extensive specimen of the disease which I have myself seen, is in Mr. Langstaff's museum, and the case is published by Mr. Howship. It was in a man,

* Guy's Hospital Report, vol. 1st.

who died at the age of 59, the tumor having arisen from cold fourteen years previously, and its growth having produced the most intense pain, as if his head was splitting asunder. Both his eyes were destroyed, and the orbit filled up, except just the aperture of the nerve, and the nostrils also are closed and blocked up by the tumor; and I observe that every bone of both sides of the face is more or less affected by the ivory deposit, and even where not changed into this structure the frontal, sphænoid, and other bones at the base of the skull, are thickened, as if the conversion was in progress. Even this is surpassed, however, by a case related by M. Jourdain, of the growth of such a tumor from the age of 12 to 44, where the lower jaw also was affected, which is rare, and weighed by itself 3 lb. 3 oz., and the whole skull weighed 8 lb. 3 oz., while the ordinary weight of these bones is 1 lb. 12 oz.

I have sometimes seen new bone of ivory density in the femur; but I believe it is rare, except in some portions of osteo-sarcomatous tumors of the fibrous character, a part of which is often as dense as ivory.

The diagnosis of ivory tumors is more easy than that of the cartilaginous, from the absence of soft matter; their smoothness and rounded outline in the cranium, and hardness and irregularity in the face, distinguish them from the osseous exostoses, which are generally abrupt and sharp while growing. In shape they most resemble the encysted tumors, which, we have seen, are also most commonly situated on the head and face; but their extreme hardness, without any yielding or crepitation, serves to guide your opinion. As to their situation, also, you seldom need expect a common osseous exostosis on the cranium and face, and still more seldom an ivory exostosis on the bones elsewhere.

Such, then, is a detailed account of the solid bony tumors, constituting three species of exostosis; and we have next to proceed to their general causes and treatment by medical or operative means.

ON HOT SALINE ENEMATA IN CHOLERA.

COMMUNICATED BY

Sir JAMES M'GRIGOR, Bart., Director-General Army Medical Agent.

THE following extracts of letters from Assistant-Surgeon Morgan, addressed to Dr. Murray, Deputy Inspector-General of Hospitals at Madras, describe the late out-break and treatment of cholera in H. M. 57th regiment at Cannanore:—

Cannanore, 12th August, 1838.

The disease was novel to the men of the 57th regiment; and although they knew that it had been for some time in their immediate neighbourhood, yet they were not prepared to recognize it when it first presented itself among themselves. Thus the first three cases, as I may say, ran a fatal course before they were subjected to any treatment. In them the hyperemesis, diarrhœa, spasms, and pain of all kinds, had ceased; and the chief indications of life were an imperfect hurried respiration, and low sepulchral moanings. The indication of cure was obviously to stimulate, both externally and internally, with the application of warmth. A draught containing a drachm of tincture of capsicum, a drachm of liquor ammoniæ, half an ounce of brandy, and 60 drops of laudanum, with hot water or an ounce and a half of camphor mixture, was given, to wash down a pill of 10 grains of calomel and one or two of opium. Warm sand bags and hot water bottles were applied to various parts of the body, and to the legs and feet. The draught, without the mixture of opium, was repeated at intervals of from half an hour to an hour and a half, especially if the first was rejected, which several times occurred. The calomel was repeated to the same extent in powder, without opium, after an interval of three hours; and, as there was no alvine action, purging enemata were administered occasionally in every case. These were composed of an ounce of common salt, with some castor oil, and a pint of hot water. In the above instances where the enemas were used they were made *hot*, with the view of supplying heat to a large intestinal surface. Blisters were tried to be raised on the nape along the spinal column, and on the pit of the stomach; but this process was imperfectly accomplished, or altogether failed, owing to the insensibility and wetness of the surface. Leeches were applied in two instances to the temples, to relieve the loaded veins, but without doing any good. Thirst was alleviated by effervescing saline draughts, weak brandy and water, and soda-water (as it is called). In the three cases here alluded to, croton oil with compound extract of colocynth and gamboge were administered once or twice before death, but without effect of any kind. The

croton oil was given in doses of from three drops to five drops, and the other cathartics in doses rather larger than usual; they were given (after the administration of powerful diffusible stimulants) to endeavour to get the bowels to act, because no evacuation of that kind was going on. Opium was administered sparingly, because the only proof of irritation was constant jactitation, and the powers of life were already torpid, nay overwhelmed, as if the cerebral and ganglionic systems had been blighted by a mephitic vapour. Unquenchable thirst was the only thing complained of by the unfortunate patients. They had been severally sixteen, twelve, and ten hours ill before they were reported, and I felt certain, from sad experience, that no human power could raise from their devoted frames the icy hand of death. As *usual*, the bodies became *warm, or even hot, a short time after death;* the blueness and shrivelling of the skin disappeared, the features filled up, and the countenance resumed, comparatively, the calm and natural expression of health. The post-mortem appearances were (also as usual) most unsatisfactory. Congestion of the venous system, an inflammatory blush pervading the stomach and small intestines, with slight serous effusion into the pericardium, were all that could be detected in the two great cavities. The head was not examined, because I knew that venous congestion of the cerebral substances and meninges, with serous effusion into the ventricles and base of the brain (in such slight degree as to be a possible result of death), are the only, and almost constant, traces of this cruel and mysterious disease in that part of the body.

The fourth fatal case, although affording hopes during its progress of a better result, resembled the others so much in all essential characters, and in its general treatment, that I shall at once pass to the fifth case, which occurred subsequently to the receipt of your letter, recommending a trial to be made of the *hot saline enemata.*

The poor fellow was the hospital serjeant, a most temperate, well conducted, young, and healthy man. Strange to say, although he had seen his comrades dying only a few days before, in consequence of procrastination in reporting themselves sick, he suffered himself to fall a victim to the same error. He had been slightly ailing during the day (3d August), and at 2 P.M. was purged, which was several times repeated before 8 P.M.; but he said nothing about it, and thought it merely a slight irregularity of bowels, occasioned by his having that day eaten some cold potatoes for dinner, as these composed the chief part of his evacuations. He went round the hospital with me at 5, and again at 8 P.M,, and I observed nothing the matter with him. He went to bed, but did not sleep; was again purged, and at 2 o'clock A.M. (4th August) was seized with vomiting, when he ejected a quantity of cold potatoes and meat unchanged. He then felt very ill, and sent for Mr. Neville, who was in waiting that night, and who saw him immediately, and found him with all the worst symptoms of cholera:—Eyes sunk, voice shrill, pulse weak and easily compressed, skin moist and cold; the vomiting continued, and the motions were conjee-like. Agreeably to a memorandum left by me to that effect, a hot saline enema (of the prescribed form) was immediately given, and repeated every half-hour. On my arrival it was given for ten successive times, and persevered in till he sunk at 2 P.M. He never shewed the least symptom of rallying. The pulsation at the wrist ceased at 4 A.M. The other remedies employed were nearly as in the first cases, except that the stimulants were very sparingly given, and diluents freely. His secretions were all suspended, except that of perspiration, which had a horrid fœtor. With each enema there came away a quantity of rice-like flocculi; a characteristic symptom of the disease. Thus the first trial of the hot saline enemata failed, and they had perfect justice done to them in all but the subject, and that was too far advanced. Three men from the barracks were admitted during the day and night in which these events are recorded to have taken place. The disease in all was in its incursive stage, the *hot saline enemata* were vigorously adopted in all from the very commencement, and continued until decided reaction set in. The rest of the treatment consisted in calomel and warm cathartics, with blisters and stimulant frictions. The re-action, I must say, *was speedy and far more salutary* than that from spiritous stimulants, which were here almost entirely withheld. Their convalescence has been uninterrupted,

and I am glad to say no other case has since occurred.

"(Signed) A. B. Morgan,
Assistant-Surgeon."

"Cannanore, 23d Aug. 1838.

"I have to communicate to you that although cholera did not absolutely cease to afflict us after I last wrote, as I fondly anticipated, its further appearance has been restricted to three cases. Immediately after my former letter was despatched they presented themselves. One of them, the man who laboured so long under scurvy (originating in the prison cells), whose case you called for, and who had been for some time at his duty, apparently, in a state of rude (though recently acquired) health. He had been ill for eighteen hours before he reported himself; and when admitted he was in a state of collapse. All efforts to resuscitate him proved fruitless. The hot saline enemata were vigorously persevered in, and stimulants employed; but in vain. The other two were brought under treatment early in the incursive stage of the disease, and speedily recovered.

The *hot saline enemata* I am inclined to think favourably of, especially in the early stage of the disease, assisted by calomel and opium, with powerful and extensive counter-irritation; but it is by no means a *self-sufficient* lever to raise the load that weighs upon the heart, or, perhaps, upon the brain. When you reach your patient pulseless, cold, and wet, with his voice a whistling whisper, his eyes sunk back in their sockets, his face blue, and his fingers like a washerwoman's (only more livid), I do not believe that hot saline enemata will have any good effect, if solely trusted to. There is not a doubt that internal stimulants ought then to be used (in moderation) along with the enemata, and external warmth, friction, shampooing, punkahing, and counter-irritation—without disturbing the patient much, which exhausts him. I have rather a partiality to the application of scalding hot water to the epigastric region and spine as a counter-irritant, as its effect is the quickest, and seems to be most penetrating and rousing to the suspended vitality. But, in many cases, I am certain nothing can succeed.

The *cold affusion* was tried at Madras, in 1830-1, in the shape of a shower bath; but, as far as I can remember, it was not found to answer. I see you recommend it only to the upper parts of the body, and that its application should be sudden and momentary; as by turning the patient's head over the side of the bed, and dashing his face—repeating it occasionally while it appears to be agreeable to him, and to rouse him. In this way it may assist moderate bleeding, calomel, shampooing, counter-irritation, and the hot saline enemata, in keeping the circulation from flagging; but I am of opinion that it can only be employed in the early stage to do good; for I cannot suppose that cold affusion can be of advantage to a person in an advanced stage of the disease, when he is a *facsimile* of one dragged out of a cold river, after having been long enough submerged to be asphyxiated. However, every feasible remedy should be fairly tried, and I shall not overlook your suggestions if opportunities occur to put them to the test, which I trust in God may not be the case. The disease is more easily prevented than cured, as is clear from the history of it in the British army, both here and at home, when proper precautions could be, and were taken; and I feel confident that the judicious arrangements made by Colonel Jones, of the 57th regiment, on its prevalence in the neighbourhood, and appearance in the corps, helped materially to *burke* it with us.

We have been now more than ten days exempt from any fresh attack; but I would mention that, in the hospital, a few of the worst cases of dysentery took on the livid asphyxiated appearance of the epidemic; and that all our cases of dysentery have been usually severe since the commencement of the rainy season.

It is curious that the epidemic, which seems now on its decline, has never attacked the two native regiments stationed here, although one of them is cantoned close to the camp bazaar (as it is called), where the disease has been especially severe and rife.

"(Signed) A. B. Morgan,
Assistant-Surgeon."

Note by Dr. Murray.

It appears from all that I learn of the hot saline enemata, that they are a remedy of considerable efficacy in all the first stages of cholera, when carefully and perseveringly administered; and that they prove a valuable addition to the other approved means of cure.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

A Treatise on Neuralgia. By RICHARD ROWLAND, M.D., Member of the Royal College of Physicians of London; Physician to the City Dispensary. London, 1838. 8vo. pp. 173.

IN addition to his own observations, Dr. Rowland has presented us with a judicious abstract of the greater part of what had been previously written upon neuralgia.

The diagnosis of neuralgia is given from p. 65—8. It has been said that "when internal pains have a neuralgic origin, in nearly every case there will be found tenderness over that part of the vertebral column, which has a connexion, by means of nerves, with the affected viscus; but that when the symptoms depend upon inflammation, this tenderness is in no case observed.

"After a careful examination of a large number of cases, I feel justified in remarking, that this diagnostic sign cannot be trusted with safety. It is entirely absent in many cases of visceral neuralgia; nor does the second branch of the diagnosis hold good in all instances; for in some cases of chronic visceral inflammation, unattended with disease of the spine, tenderness over the vertebral column is present; as in the following case:—

"A plethoric woman, aged 38, complained of acute pain in the right hypochondrium, aggravated by pressure; the pulse was quick and small, and the cheeks covered with a hectic flush; there was extreme tenderness over the seventh and eighth dorsal vertebræ, and pressure over this spot occasioned an aggravation of the pain of the right side; soon afterwards, she experienced a sensation of something bursting internally, and at the same moment the pain of the side ceased, and a large quantity of purulent matter was afterwards passed by stool."—(P. 67—8).

The account of the treatment of this obstinate disease is very full, and will be read with advantage. Leeching, cupping, tonics, lunar caustic, the actual cautery, friction upon the spine with tartar emetic ointment, mercurial ointment, iodine, sarsaparilla, nitric acid lotions and opiates, calomel with antimony and musk, the ointment of the proto-ioduret, or dento-ioduret of mercury, cinchona, quinine, arsenic, nux vomica, purgatives, opiates, stramonium, belladonna, conium, hyoscyamus, hydrocyanic acid, and sesquioxide of iron, have all been occasionally useful in the countless varieties of this Protean malady. Even bleeding, though generally disadvantageous, may be indicated in persons of a full habit, before tonic or narcotic remedies can be safely tried. Sometimes when the disease proceeds from the irritation of an old cicatrix, a permanent cure has been obtained by removing the cicatrix surgically; the section of the nerve has now and then been beneficial; and counter-irritants are occasionally useful, so that "many patients fly to these remedies habitually, when threatened with an attack."—(P. 85—6).

Veratria disappoints one:—

"This substance has latterly been much employed in neuralgia, chiefly in the form of ointment, composed of half a drachm of the veratria to an ounce of lard. Speaking of this remedy from my own observation, I must observe, that though it is sometimes useful, I have never succeeded in obtaining permanent relief from its employment, in any case of long standing.

"The pain is often relieved in a surprising manner by the first rubbing; and sometimes a considerable interval of ease ensues before the return of a paroxysm; but this interval grows less and less after each successive rubbing, until at length it is scarcely protracted beyond the continuance of the disagreeable pricking sensation, which this application occasions; and the patient cannot be persuaded to continue the use of a remedy, which at first he had regarded with almost superstitious hopes."—(P. 84—5).

Strychnine is sometimes useful as a palliative, in the form of an ointment made with one or two grains of the alkaloid to an ounce of lard, or dissolved in camphor liniment in the same proportion. It has one advantage over veratria, as it does not cause painful pricking sensations.

Dr. Rowland's account of particular forms of neuralgia is very good and minute: under the head of neuralgia of the internal organs, he discusses angina

pectoris, neuralgia of the arteries, gastralgia, enteralgia, hepatalgia, nephralgia, and neuralgia of the neck of the bladder, urethra, testis, and uterus.

In enteralgia and gastralgia, "sometimes a cure is effected by means which could not, *à priori*, be supposed to act beneficially in this disease. I have known, for instance, two cases where chronic enteralgia was relieved by the habitual use of cyder."—(P. 136—7).

Besides the cases given in the course of the essay, twenty more, treated by Dr. Rowland, are appended to it.

We are now going to make three observations, which the superficial reader will class with "trifles, light as air;" while the genuine student will feel that if they were generally attended to, his labours would be pleasantly abridged.

The first is, that our author contents himself with giving the title of his book, "A Treatise on Neuralgia," as the running title of every page, instead of varying it according to the subject discussed.

The second is, that the references to other works are often given most vaguely; thus at p. 25, Mr. Swan being referred to for the case of a gentleman in whom pains of the fingers occurred whenever he had a motion, the reference at the bottom of the page is merely "Swan, l. c."; but on turning back to p. 20, of Dr. Rowland's treatise, we find a different passage, quoted from Swan, with the vague reference, "Swan on diseases and injuries of the nerves." Our author, if we mistake not, confounds *l. c.* with *op. cit.*

The third count of our indictment is, that Dr. Rowland has quoted Aretæus in Latin. A Greek physician should be quoted in his own language, or in English, or both; but the right-hand column, where the text of a Greek writer makes its appearance, *Latio donatus*, is commonly the most unintelligible of all the varieties of dog-Latin. The latter end of the passage from Aretæus, at p. 113, is mighty difficult to construe, bordering, we should say, on the impossible.

So much for matters of form. Dr. Rowland's work on neuralgia does him great credit, and will be readily consulted by every one who has to treat an obstinate case of this malady.

Introduction to the Modern Classification of Insects; founded on their Natural Habits and Corresponding Organization: with Observations on the Economy and Transformations of the different Families. To which is added, a Descriptive Synopsis of all the British Genera, and Notices of the more remarkable Foreign Genera. By J. O. Westwood, F.L.S. Secretary to the Entomological Society of London, &c. &c. &c. London, 1838. Part VII. 8vo. pp. 64.

This work appears to us, as far as we can judge of such matters, to be truly scientific, and will, we doubt not, form a part of the library of every one who aspires to drink deeply of entomology. Here is a new remedy for toochache, in the shape of a kind of beetle, called the *Chrysomela Populi*.

"Dr. Hirsch, of Vienna, states that this and several other beetles, which emit a similar fluid when alarmed, are serviceable in the toothache, by bruising them with the finger, and then rubbing the latter against the teeth and gums; the efficacy of the remedy continuing for several days upon the finger."—(P. 388, *note*.)

Mr. Westwood's work is illustrated with a great number of neat woodcuts in outline. The book is to be completed, if possible, in thirteen parts.

A General Outline of the Animal Kingdom. By Thomas Rymer Jones, F.Z.S. Professor of Comparative Anatomy in King's College, London. Illustrated by numerous Engravings on Wood. Part II. London, 1838. 8vo. pp. 48.

This is an uncommonly handsome work, both in typography and xylography, or printing and wood-engraving.

The following account of the medusa was new to us, and perhaps may be so to our readers. It would seem that not only does the medusa live in the water, but the water lives in the medusa.

"If he considers, in the first place, the composition of their bodies, what does he find?—an animated mass of sea-water; for such, in an almost literal sense, they are. Let him take a medusa of any size, and lay it in a dry place; it will be found gradually to drain away, leaving nothing behind but a small quantity of transparent cellular matter, almost as delicate

as a cobweb, which apparently formed all the solid frame-work of the body, and which, in an animal weighing five or six pounds, will scarcely amount to as many grains; and even if the water which has escaped from this cellulosity be collected and examined, it will be found to differ in no sensible degree from the element in which the creature lived. The conclusion, therefore, at which he naturally arrives, is this;—in the medusæ, the sea-water collected and deposited in the delicate cells of an almost imperceptible film, becomes in some inscrutable manner instrumental to the exercise of the extraordinary functions with which these creatures are endowed."—(P. 65).

MEDICAL GAZETTE.

Saturday, December 29, 1838.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

CORONERS' INQUESTS.

In Germany, as many of our readers are aware, there are journals specially devoted to almost every subdivision of medicine, both theoretically and practically considered; thus there are Archives of Physiology, and separate journals of Midwifery, Pharmacy, Diseases of the Eye, &c. &c.

It may be doubted whether, in this country, such minute investigations of single branches of professional knowledge would meet with much encouragement; they might succeed, indeed, in improving our art, but would almost certainly fail as commercial speculations. Yet there is one kind of these special journals which looks peculiarly tempting, and would really seem to invite the adventure of some bold speculator; and though, like the others, it would most probably soon cease to exist, the impartial critic would say of its founder, *magnis tamen excidit ausis*—we mean a journal of forensic medicine, which would, of course, include an ample and critical account of coroners' inquests. At present the inquiries of these ancient tribunals are too frequently conducted in a manner which, as reviewers are wont to say of certain books, is beneath criticism. Yet there is this difference between the cases; the books drop still-born from the press, while the inquests have a certain life in them, and pass, with many, for real investigations. When Caudex, therefore, puts forth in print his ignorance of inflammation, or Stipes writes a pamphlet to shew how little he knows about impetigo, it is well to pass the books over in silence, and let them go their way to the chandler's shop without saying a word about the matter. But when we see coroners' inquests conducted as they are, while no influential person takes steps to amend their defects, we cannot refrain from what would otherwise seem a work of supererogation — namely, the shewing that these inquiries are miserably carried on. In fact, they have the air of being seven centuries, or so, behind the times we live in; a genuine relic of antiquity; a specimen of the method of ascertaining the causes of sudden death in King Stephen's reign.

The objection, then, to the present mode of doing these things (if we must criticize that which is beneath censure) is, that the coroner is commonly quite unskilled in medicine, and therefore unable to be a check upon the witnesses, or a guide to the jury, excepting on legal points.

The second objection is, that the juries are chosen from too low a class of society, and consequently are quite incompetent to decide on the delicate points submitted to them.

The third objection is, that sufficient care is not taken in selecting the practitioners who are to conduct the medico-legal examinations required, and to

report their consequent opinions to the court. The flattering compliment is paid to "us physical people" that the first man you can lay your hand on is as good a witness as you could find after a week's search; as if the profession were like Aladdin's jewelled garden, where you had only to stretch out your hand to pluck a sapphire of inestimable value, or a ruby worth a prince's ransom!

Beck thinks, as we do, that this favourable supposition is far from being correct. After observing that members of our profession are liable to be called at the shortest notice to take part in such an investigation:—

"Are they all qualified to do justice to it? Am I doing them a wrong in saying that they are not? * * * Does it not then appear that a duty is required, which in many cases should rather be avoided?"—*Beck's Med. Jurisprudence*, 5th edit. p. 956.

And in a note, he says:—

"The fact cannot be too distinctly stated, that a man may be a *judicious, correct, and excellent practitioner of medicine, and yet not competent as a witness.*"

The remedy proposed by Dr. Beck is the obvious and right one. It is the appointment of practitioners in counties, or districts, who shall be specially charges with this office. After showing how legal medicine is taught at Berlin, he adds:—

"The advantage of designating individuals for the particular duty of medico-legal examination, would thus seem to be striking and prominent. It would lead to more accurate study of the science. It would afford numerous and favourable opportunities of improving it. It would, in a great degree, prevent that disputation about facts which produces so many unpleasant collisions in courts of justice; and above all, it would spare to many the performance of the most unpleasant duties, often amidst the circle of their practice, and hence liable to injure its extent or impair its usefulness *.

* Beck, p. 958.

The distinguished author whom we have just quoted, backs his recommendation by the advantages which have been found to result from this plan, in France and other continental states; and he might have added, that a similar method is adopted in the profession with which these cases bring us in contact—in the profession, namely, of the law.

Thus, to take a recent instance, when the overseers of Brixworth wanted to have an opinion upon the law touching the burying of paupers, they did not have recourse to the nearest attorney, nor to a clever, brow-beating Old Bailey barrister, nor to an eloquent *nisi prius* counsel, nor to a pleader skilled in Queen's Bench quillets; but they went to Dr. Lushington, for he knows ecclesiastical law, and the question belongs to it.

In the case of forensic medicine, however, the Dr. Lushingtons remain to be made; as yet they are indeed few and far between, but they may be called into existence by a strong and steady demand for them. Talent is not wanting, and any marketable modification of it may be reasonably hoped for:—

"Sint Mæcenates, non deerunt, Flacce, Marones."

We trust that these suggestions may meet the eyes of those who have power to carry them into effect, and that the highest court in the kingdom may rectify the feeble and maundering style in which the low but not unimportant courts we have censured carry on their proceedings. We might bring forward, in illustration, an interesting case which was made the subject of a coroner's inquest, on the 6th and 10th of this month:—

Mrs. Pines, the wife of a labouring man, living in Worton Lane, Isleworth, Middlesex, had been in bad health some weeks before her death. She complained of pains in her limbs, and a

great depression of spirits, but had no medical advice till the 30th November. On that day she was seen by the parish surgeon, and in the evening her daughter fetched a bottle of medicine from his house. At eight o'clock Mrs. Pines took two tablespoonfuls of the mixture. Ten minutes afterwards she complained of a violent pain in the head, and sickness. In walking across the room she staggered, and then went up stairs and fell on the bed. In about half an hour the husband went up and found her foaming at the mouth. She died about an hour after taking the physic. A daughter of the deceased deposed, that while on the bed she exclaimed "Oh! Suky, I am poisoned—I am poisoned;" and that before her death she seemed to suffer very much. Mary Ann Pines, the daughter-in-law of the deceased, added, that during Friday Mrs. Pines was very ill, and vomited frequently before taking the medicine. The parish surgeon was not examined; but another practitioner gave his opinion that the medicine did not contain any deleterious ingredient, though he could not speak decidedly unless it was analysed; he also went to look at the body, and stated, on his return, that from its appearance he had no reason to suppose that Mrs. Pines had died any other than a natural death. Some of the jury (fit men to have been jurors of our late Sovereign Lord King Stephen) were satisfied with this makeshift evidence, and would have brought in a verdict of natural death; but a gleam of common sense burst forth among the others, who wished for a post-mortem examination, and an analysis of the medicine; and the inquest was accordingly adjourned. It is hardly possible to imagine any thing more imperfect than this first day's proceedings.

Supposing it was probable that poison had been administered to Mrs. Pines, and that we were compelled to guess which was the fatal drug, we should name prussic acid. In the celebrated case narrated in the 37th volume of the Philosophical Transactions, where several persons were killed at Dublin by cherry-laurel water, one of them died in about an hour, without vomiting, purging, or convulsions, which is scarcely possible, when any other poison destroys life in so short a time. Whether the sickness spoken of in Mrs. Pines' case meant vomiting, or only nausea, does not appear. On the whole, it must be allowed, that excepting the accidental occurrence of sudden death after one dose of the medicine, there was no reason to suspect poisoning.

Meantime the coroner had the good sense to get the mixture analysed by Mr. Everett, who could not detect any poison, but believed the medicine to be composed of rhubarb, chalk, water, and perhaps a little opium; but the last he was not sure of.

The parish surgeon, who had been unable to attend on the first day from severe indisposition, said that the mixture consisted of chalk, rhubarb, and a little cinnamon water, but no opium.

The verdict of the jury was, "Died by the visitation of God."

Granted, then, that Mrs. Pines did not die by poison, what was the cause of her death? This remains nearly as doubtful as if no inquest had been held, for no *post-mortem* examination was made. Was this most necessary part of the inquiry omitted just to save the county a couple of guineas? The coroner, as we recently particularly stated, is obliged to advance the fees of the medical witnesses out of his own pocket, which circumstance has operated as a great check upon calling in their aid; for a coroner who should ask for medical testimony as often as it is required for a real investigation of the

case before him, must keep a considerable capital afloat to pay the fees. This should be looked into, and amended.

There is one objection which we trust will not be made to the necessary improvement of forensic medicine; to wit, that it will add to the county-rates, "already so heavy;" for if the poorer states of the continent can afford to solve the problems which belong to this branch of knowledge, surely England, with its superabundant wealth, will no longer consent to slur over these matters in the old Norman style.

ROYAL COLLEGE OF PHYSICIANS.

We learn that the College of Physicians has just completed various regulations which are calculated, if carried into full effect, to produce great change, and we trust great improvement, in the department of the medical profession over which it presides. Many years ago the College sacrificed its own independence by the nature of the connexion which it formed with Oxford and Cambridge; one of the consequences of which was, that other universities also came to have an indirect influence, in so far as a degree from one or other of them became a prerequisite before admission as a physician by the London College. In proportion, however, as the older men have dropped off, the liberal party in the College seems to have progressively increased, and to have received an important addition in the comparatively large number of licentiates admitted to the Fellowship during the last two or three years. The result has been the enactment, from time to time, of regulations progressively less and less tinged with the exclusiveness of their predecessors, and more adapted to the liberality of the present times. We understand that hereafter the College is not to demand any previous graduation, or the diploma of any other Body whatever; but if the candidate come up to the required standard, he is to receive the full title, as well as all the legal privileges, of a physician. If our information be correct, too, a plan is to be followed, in regard to the preliminary education, very different from that generally pursued in this country. Instead of fixing the student to a particular order of succession, and a definite number of lectures in each department, the subjects only, and the whole period required to be devoted to their study, are to be specified: in a word, the test of knowledge is to be, not the number of certificates in the candidate's pocket, but the amount of knowledge in his head. We shall probably be able to say more on the subject next week, as we understand that the new regulations are to be immediately published.

WESTMINSTER MEDICAL SOCIETY.

December 15, 1838.

Dr. Chowne, President, in the Chair.

Posology of Morphia—Paralysis of the Portio Dura—Dr. Marshall Hall's Physiological Discoveries.

Mr. Chance invited the attention of the members to a statement of M. Raspail, recently copied by a medical periodical in this town, in which that physiologist asserts that one or two grains of opium will produce sleep, but a few grains more would cause death; but that as much as *fifty-nine grains* of the acetate of morphia might be injected into a vein with impunity.

Dr. Addison condemned such rash statements as that of Raspail, just quoted. He had known a case in which *one* grain of the acetate of morphia brought on symptoms of poisoning.

Mr. Verrall thought that much of the effect would depend upon the idiosyncrasy and habits of the patient.

Mr. Horne's experience had proved to his satisfaction the truth of a general principle, that persons habituated to the taking of morphia were after a time compelled to diminish the dose.

Dr. C. B. Williams thought the *modus operandi* of morphia would show that such a quantity as *fifty-nine grains* could not be taken with safety. This medicine acted

directly upon the sensibility, and such an excessive quantity would destroy that of the nerves of respiration, and destroy life. In this respect it differed from belladonna, in which, when beyond a certain quantity was administered, no increased effect was produced. When as much as a drachm of the extract of belladonna was given, the effects did not implicate the vital functions.

Mr. Snow was disposed to believe that Raspail was right, because morphia was separated from the narcotine, the most poisonous constituent of opium. He thought that morphia, like belladonna, acted as a mere sedative.

Mr. Hale Thomson considered the statement of Raspail perfectly incredible. He himself had administered morphia very largely, and with the best effects, but never to any thing like the extent recommended by the Frenchman. In a case of acute *tic douloureux*, accompanied with spasmodic action of the intercostal muscles, occurring in a man accustomed to the use of opium, he had given *six* grains of morphia, and again *four* grains three hours afterwards. The patient enjoyed a tranquil night afterwards, and felt refreshed in the morning. This patient could not afterwards bear such large doses, and he (Mr. H. T.) felt inclined to admit the truth of the principle advanced by Mr. Horne—that the power of this medicine over the patient was gradually aggravated, instead of, as was the ordinary rule with medicine, being gradually diminished.

Mr. Streeter thought the statement of M. Raspail might be a printer's error. The effects of opium and its constituent elements differed according to the constitution of the patient. He had known an instance of a *drachm and a half* of Battley's liquor proving fatal to a madman, and twenty minims of the same fluid proved fatal to an old woman who had compound fracture of the femur.

Dr. Addison remembered that M. Magendie had given a grain of narcotine to a dog, and that the animal speedily perished. Dr. Roots, however, had employed narcotine in doses of several grains, as a tonic, and had found its administration not only unattended with danger, but productive of great benefit. There was an inconsistency between the experience of Dr. Roots and of M. Magendie. Could the narcotine be poisonous to animals, and inert or even beneficial to the human frame?

Mr. Chinnock said a few words in favour of the use of morphia, and Mr. Streeter proceeded to read his promised paper on Paralysis of the Portia Dura.

Mr. Streeter gave a succinct history of the anatomy and physiology of the nervous system. Till the termination of the last century, he said, inquirers had been misled by the hypothesis, that, like the circulatory system of the blood, the brain, spinal marrow, nerves, ganglia, constituted one closely united functional system, in which the several parts communicated by means of some imaginary fluid, called the animal spirits, or by a subtle elastic æther. Willis had a glimpse of the idea, afterwards more fully developed by Boerhaave, Haller, Van Swieten, Prochaska, Soëmmering, and others, that this system, the unity of which had been so long inculcated, consisted of several centres, such as the brain, the medulla oblongata, the sympathetic, &c. The author now indulged himself in the most amiable and candid philosophical credulity, and accorded high credit to Messrs. Gall and Spurzheim for the discovery of a plurality of organs in the brain, and the assignment of different functions to different parts. He then alluded cursorily to the splendid discovery of Sir Charles Bell, the double function of the spinal nerves, a discovery which had been subsequently illustrated by the experiments of Mayo, Magendie, and Panizza. The anatomical analysis of this system had proved the existence of one nerve for motion, one for common sensation, and one for special sense. The author now paid some benevolent compliments to Dr. Marshall Hall, the originality of whose views he warmly advocated. Dr. Hall had promulgated the doctrine that certain functions of the nervous system, named by him the excito-motory, were due to a certain portion of the spinal marrow, called by Dr. Hall, "the true spinal marrow." This physiologist had not yet demonstrated the existence of this nervous tract; but he, Mr. Streeter, fully believed in the existence of a distinct nervous centre the source of the automatic movements of the body; but he thought the question as to whether this excito-motory insentient function resided in a distinct fibre, was yet *sub judice*. It was plausibly argued, that as there existed but one muscular fibre to execute the voluntary and involuntary movements of the frame, so there might be but one nervous fibre occupied in carrying on the sensatial, voluntary, and simple motor functions or movements of irritability, not requiring cerebral communication. He waited for further evidence to shew the existence of the excito-motory fibres of Dr. Hall, but he thought this physiologist a man much injured by the journalists of the day.

Mr. Streeter now made a most comprehensive definition of the word paralysis, which included not merely lesions of sensation and motion, and secretion, but even suspension of certain cerebral func-

tions, according to the phrenological creed. The special object of his present essay, however, was to describe a particular loss of function of the portio dura, arising from cold. The symptoms of this affection were highly characteristic. Every movement of the face was lost, except that of the jaw in mastication. Lachrymation usually existed, but the most prominent mark was, the inability to shut the eyelids completely. If permanent, this defect would lead to the destruction of the eye from continual exposure to the atmosphere, and the particles suspended in it.

When the disease has existed some time, the symmetry of the two sides of the face is destroyed; and as the mouth is distorted, there is an exaggerated expression on one side, and a ludicrous calmness on the other. Mr. Streeter distinguished these affections into three classes:—1. The first form is that arising from cold, in which the *lagophthalmos* is, equally with the other classes, a very prominent symptom. This form of the malady arises from inflammation of the *pes anserinus*, or from swelling and diminution of the diameter of the aquæ ductus fallopii, causing pressure on the trunk of the nerve. 2. A second form of the affection proceeds from inflammation of the ear, ending in abscess, and involving the aqueduct. This is difficult of cure. 3. The third class of cases arise from the pressure of tumors on the nerve, from necrosis of the pars petrosa, or, from its implication, in malignant ulceration of the cheek.

Mr. Streeter related three cases of the first class that had passed under his own observation. The first case occurred in 1829. A gentleman, æt. 26, whose health was injured by application to study; he had been exposed to a draught of air, and a few mornings after this incident, he found he could only smile on one side of his face. This case recovered in two or three weeks, after leeching, hot fomentations, a small blister, and a camphorated liniment, had been successively resorted to.

The second occurred in a woman, the day before she was delivered of a child. She was the wife of a salesman in Covent Garden market, and very much exposed to cold. The distemper was cured in the same manner as in the other patient. The case occurred in 1835.

The third case took place early in the spring of the year, in the person of Mr. John Miller, the ingenious mechanic and anatomist. He had dissected near an open window, in cold weather. When he awoke on the following morning he found his face semi-paralyzed. He soon got well.

In all these cases a proper constitutional treatment was adopted, in addition to the topical remedies, and in none of the patients has a recurrence of the disease taken place.

Dr. Addison thought the communication of Mr. Streeter valuable, inasmuch as it pointed out very clearly the distinction between a curable malady and true hemiplegia of the face, an affection of a much more serious character. He (Dr. A.) had, for a long time, perceived an analogy between this particular affection and rheumatism in general. He thought that in both instances the effects upon the nerves were the same. He had observed paralysis of one or both extremities occurring, as a consequence of rheumatism, produced by cold; and it might occur, without being accompanied by the rheumatism. Paralysis, too, might be the forerunner of the rheumatism. In the same manner neuralgia of the sciatic or other nerves is produced. He had seen a case in which paraplegia was accompanied by inflammation of the knee-joint, where much pain existed. These cases being treated in the same way as common rheumatism, got well. Thus, whether we regard the cause, the history, or the treatment of these maladies, a striking analogy is seen to prevail.

A pupil of Dr. Marshall Hall now commented very severely upon the ungenerous enemies of Dr. Hall. He repeated some of the arguments so often published by his teacher, and which are now as familiar to the ears of professional readers, as the air of "Jim Crow" is to the Dii Penates of the Adelphi.

Dr. Marshall Hall next made a pathetic address to the society, in which he detailed the hardships to which he had been exposed by the cruelty of adverse critics. "Could I have foreseen," quoth he, "the persecution which my discoveries have brought upon me, I would never have written a single line upon physiology." The Doctor paid a high compliment to Mr. Streeter's essay, and said he had but *one* fault to find with it, and that was the *doubt* which had been thrown upon the truth of the excito-motor system. The Doctor's system consisted of nothing but a detail of experiments; how, therefore, could there be any doubt on the subject? To doubt his experiments was to doubt that physiology existed. He would ask whether any member had seen thorough paralysis of the facial nerve in hemiplegia, that is, arising from disease of the cerebrum? And he would ask if division of the trifacial, or of the facial nerve, or of the medulla oblongata, does not destroy the function of the orbicularis palpebræ, as evidenced by touching the eyelash. Magendie, in his experiments, knew that he had succeeded in dividing the trifacial

nerve within the cranium, by the fact that the eyelids fail to close when the lashes or the skin is touched. Every one knows that this action is destroyed by the division of the portio dura or medulla oblongata; in short, we have the true spinal system demonstrated by a series of facts known to all the world.

Mr. Snow supported Dr. Marshall Hall.

Mr. Streeter concurred entirely in the opinions expressed by Dr. Addison; he was aware that, in hemiplegia, paralysis of the eyelids did not exist. Mr. Streeter pronounced a panegyric on Dr. Hall; but, nevertheless, he should continue to look upon the Doctor's system as hypothetical, until some evidence of the existence of the excito-motory fibres could be furnished, if not in the complicated structure of the human frame, at least in some rank of the lower animals. He thought but little satisfaction attended the bloody experiments of Magendie and other continental inquirers, in whose proceedings the conclusions were vitiated not merely by the great loss of blood incurred, but by the total disregard of the influence upon the results exercised by the great principle of sympathy.

Dr. Hall denied having ever asserted the existence of *distinct* cerebral and spinal nervous fibres; he had simply made incidental allusion to his own *opinion* on the subject; but this opinion had no relation to the true spinal or excito-motory system, for the truth of that is based upon experiment. The derivation of certain specified phenomena was clearly traced to the spinal marrow; but the mere opinion alluded to was not unsupported by strong arguments. There was no exclusive nerve of common sensation or voluntary motion, but there was a nerve of pure sensation, the function of which had been proved by Magendie—the olfactory. If nervous fibrils were devoted exclusively to sensation, why not exclusively to voluntary motion, and to excited motion? What was the source of energy in the trifacial and facial nerves when the brain was removed? Professor Müller contends that volition acts upon the body through the medulla oblongata, "in the same manner as a player upon the harpsichord." This was a fanciful figure, unsupported by correct analogy. When the performer ceases the instrument is silent; and when the instrument is out of tune, the player cannot by any effort produce harmony. The contrary is the truth in the nervous system: the instrument sounds when the performer is absent; and when the instrument is out of tune, an augmented effort of the performer may produce harmony. In chorea, the function, if not the structure, of the spinal cord is disordered: the patient cannot walk, except unsteadily, but he can run with regularity. This is a physiological argument, but is it therefore of no value? To the speaker it seemed sufficiently cogent to establish the truth of his opinion as to the existence of distinct cerebral and true spinal fibres. His excito-motory system, he would venture to say, was built on the rock of experimental induction, and would, after the illiberal critics of the day had sunk into oblivion, be hailed with gratitude by future generations. The Doctor finally apologized for occupying so long the time of the society.

After this, the hour of departure having arrived, the discussion on Mr. Streeter's essay was adjourned to the ensuing Saturday.

IDIOS.

PHYSICAL SOCIETY, GUY'S HOSPITAL.

December 15, 1838.

MR. GREENWOOD IN THE CHAIR.

MR. DONALD DALRYMPLE read a paper on—

Idiopathic Hæmorrhage.

Having defined hæmorrhage to be an escape of blood from the vessels in which it circulates in healthy states of the body, the author proceeded to consider whether or not a strictly primary or idiopathic hæmorrhage could exist—that is to say, a hæmorrhage unallied to any pre-existing organic alteration of vessels or neighbouring tissues. He considered that the different kinds of hæmorrhage had been for many years necessarily confounded, for the earlier physicians, unassisted by the exact knowledge furnished by normal anatomy, and the still more valuable data of pathological research, were unable to appreciate them correctly. All their inquiries were directed to the seat and degree of the affection, and their attention was arrested rather by the symptoms than carried on to the examination of the lesions which might act as causes of hæmorrhage. Mr. Dalrymple next alluded to the classification of hæmorrhages into idiopathic and symptomatic, the former traceable to no appreciable cause, the latter dependent on some obvious local or general alteration of the economy. The author, adopting the opinion of Müller, would not admit the theory that capillaries terminated by open mouths; he considered, therefore, that any escape of blood from a vessel, without any breach of texture, was the result of exosmose. Having noticed

cases bearing on this point, the author adverted to the gradual diminution of the limits of this class of cases, owing to the rapid advances of morbid anatomy, by which many lesions had been laid bare to us of which we were previously ignorant, and to which hæmorrhages might be attributed. In conclusion, the author expressed a belief that the term idiopathic, as applied to hæmorrhage, would be shewn to be a provisional one by the future discoveries of morbid anatomists.

At the conclusion of the meeting it was given out by the president that the society would assemble again on January 12, 1839, Dr. Bright in the chair, when Dr. Addison would make some observations on the "Diagnosis of Nephritis."

ABSORPTION OF DEAD BONE, &c.

To the Editor of the Medical Gazette.

Sir,

In the last number of your excellent publication, is an interesting letter, signed "Pathologicus," on the absorption of bone, in reference to some experiments on this subject in a valuable paper by Mr. Gulliver, in the last volume of the Medico-Chirurgical Transactions.

Pathologicus asks for a single proof of the absorption of inorganic particles. Now water is easily absorbed, so is the colouring matter of madder, turmeric, and other substances. Dr. Hodgkin* tells us, that in five experiments by Fiscinus and Seiler, in which lead was given internally or applied externally, this metal was detected in the chyle. Besides, traces of arsenic and nitrate of silver have been found in the thoracic duct; and it is well known that the urine is often coloured by inorganic particles which must have been absorbed—such as rhubarb, turpentine, &c.

The beautiful description by John Hunter, quoted by Pathologicus, refers simply to the process of exfoliation.

Although Hunter distinctly describes the absorption of dead bone, he has alluded to the subject in a much more judicious way than most of his followers. He says, "I believe the absorption of dead bone is sometimes necessary; it generally takes place when the separation is slow and the granulating process is quiet†," &c. That the absorption of the dead bone goes on simultaneously with the formation of the new one, has been the common doctrine of the different teachers in London, from the time of John Hunter till the appearance of Mr. Gulliver's observations; and in confirmation of this, let any one compare the articles on necrosis, in the present and previous editions of Cooper's Surgical Dictionary; when they will perceive that the former has been materially modified, in regard to the point in question, by Mr. G.'s researches; and in the interesting lectures delivered at the College of Surgeons, by Mr. Stanley, and published in your 20th volume, he states that dead bone is absorbed while it retains any connexion with the living. He, however, quotes Mr. Gulliver's experiments, and states that from a repetition of them he obtained similar results.

It would be interesting to repeat the experiments Mr. Gulliver has related, concerning the adhesion of living to dead bone, for it is probable that some mistake has occurred, the foreign bone being merely *incarcerated*. If it be a fact that living will unite to dead bone, it is very extraordinary, and will tend to unsettle some important and generally received tenets of physiology, in the establishment of which Mr. Hunter's authority has been mainly influential.—I am sir,

Your most obedient humble servant,

Philiatrus.

London, December 20, 1838.

* Edwards on Life, translated by Drs. Hodgkin and Fisher, Appendix, p. 388.

† Hunter's Works, by Palmer, vol. i. p. 527.

QUERIES WITH RESPECT TO THE CAUSES AND PREVENTION OF THE PRESENT PREVALENCE OF SMALL-POX.

To the Editor of the Medical Gazette.

Sir,

The prevalence in almost every district of the kingdom of the small-pox, and its apparently gradual increase during the last year or two, are matters of serious moment. The steadiness which it exhibits gives it more of the character of an endemic than an epidemic disease, and renders it a cause of the greater anxiety.

It is important that we should bend our minds to the careful investigation of the causes of its re-appearance (if I may use the word), and the manner in which it is to be checked. The following few observations are written with the hope of exciting the attention of your more experienced readers with respect to its causes.

1. Although undoubtedly connected with neglect of vaccination, this is very far from being a sufficient cause. I have at present a family of five children under treatment, three of whom bear good marks

of vaccination, and by one of these the disease has been introduced. The three, however, are much more slightly affected than those who had not been vaccinated, as is, I think, almost invariably the case.

2. Nor does it depend on the long period since vaccination; for the disease most commonly has attacked children, and I have lately seen cases where it has occurred from two to five years since vaccination. Perhaps some of your readers will be able to say how soon after satisfactory vaccination, and when the virus has not entered the system previously to the vaccination, the disease has occurred.

3. How far does it depend on *careless vaccination?* Vaccination, like all other operations, may be well or ill done. Parents are often satisfied without shewing the medical man their children after vaccination; and in some of these cases I have reason to think that there is a spurious vesication coming on and passing off in two or three days without real infection. Can any of your readers give any positive information as to the effects of disturbing the pock for the sake of obtaining matter? A friend in the country, of great experience, attaches great importance to the preserving whole one or two pustules.

4. It is very important that we should have some more accurate information as to the deterioration of the virus. I have lately been often very much dissatisfied with the *character* of the pustule, although I have found no difficulty in producing it in all cases where I have inserted the virus. I hope some medical man favourably situated will try the experiment lately suggested in the Med. Gaz., of inoculating the cow with matter of small-pox. It would be very desirable to have a source for obtaining fresh lymph at pleasure.

5. I fear when the disease has occurred in a modified form from previous vaccination (a form equally, I think, contagious with the true disease), especially in the country, the carelessness of hasty practitioners has led to its being mistaken for chicken-pock, or some of the irregular pustular diseases. One case of this kind has come under my notice, where the practitioner was not convinced till two neighbouring medical men had been called in, and eight or nine cases had already occurred.

A still more important inquiry remains. How is the disease to be checked? On this head I should like to throw out a few queries, though I do so, especially with respect to some of them, with great diffidence.

1. Are not certain laws in force with respect to the insulation of affected patients? I saw only yesterday two children running about with a number of others, who were marked with several pustules which had not desquamated. Were not the parents of these children indictable? If these laws exist, is it not very advisable that they should be enforced at the present period? Might not the officers of unions interfere in infected districts, at the instance of the medical men, by issuing placards explaining the law and threatening its execution?

2. It is usual, when the small-pox has appeared in any district, for the guardians to order the medical men to vaccinate all poor persons gratuitously (I mean gratuitously as regards the paupers, the medical man being paid separately, or as a part of his general emolument). At the present time, when all England nearly is infected, might not this be advantageously extended? The centralizing system of the new poor-law affords advantages in this case which we have not enjoyed before, and I wish they would use these advantages in advising the guardians of unions throughout the kingdom to have all the children of the poor vaccinated, and adults who are willing, revaccinated (proper remuneration being made to the medical officer). The rich should also be invited to have their children submitted to the same ordeal.

3. I know not whether we are too free in England to submit to legislative interference; but I confess, I, for one, should have no objection to see a law rendering the practice of vaccination compulsory on all, whether rich or poor; or, if this be too stringent, at least in all districts which the guardians or magistrates may declare infected. For although vaccination does not entirely check the disease, I think it invariably very much lightens it.

Should the foregoing observations lead to any renewed investigation of the subject, and to the recording of more extensive facts and observations, I shall feel that my queries (for such I wish them to be considered) will have done good service to the cause of science and humanity.

I remain, sir,
Your obedient servant,
M.R.C.S. I. and E.

SMALL-POX AND VACCINATION.

The following is an extract from the Proceedings of the Provincial Medical Association, to which we alluded last week:—

I have this year been in correspondence with the medical men of several of the principal towns of England, and from

almost all of them I have learned,—first, that small pox has prevailed lately to a very considerable extent; some of them state that it is scarcely ever entirely absent from their neighbourhood, and that its occurrence after vaccination is become very frequent: secondly, that though the credit of vaccination stands high, and though the educated classes are constant in their applications for it, yet that the lower classes are often exceedingly dilatory in bringing their children forward, even when the operation is gratuitously performed: thirdly, that gratuitous vaccination is performed to a very various extent in different parts of the country; in some places not at all as a system, and in others far from being so general as the state of the population demands: fourthly, that vaccination is frequently performed by non-medical persons: fifthly, that inoculation of the smallpox is, in some parts, performed to a considerable extent, not by medical men, but by ignorant persons of the lower class, who take advantage of the defective state of the laws, to fill their pockets at the expense and imminent risk of the public. Several practitioners, in their correspondence with me, refer the appearance of the smallpox in their neighbourhood entirely to the cases in this manner inoculated; and I may state that I have ascertained that nearly two hundred were last year inoculated in Chichester and its vicinity.

With regard to the apathy of the parents in the lower classes, I have to state further that it is strikingly illustrated by the fact, that on an alarm of smallpox being near them, they very frequently bring their whole families to be vaccinated together for the first time; shewing that the operation had been entirely neglected during the increase of the families, the children being arrived at an advanced age before it is resorted to. Now the evil of this is obviously most grievous. Besides the risk of smallpox which the child has endured hitherto, vaccination is thus adopted at an age much less favourable than infancy, and much more liable to those numerous little accidents which so frequently interfere with its progress and efficacy. It is the general opinion, I believe, that the age most favourable for vaccination is from three months to six months. The season of dentition is thus avoided, and the greater liability of having the vesicles scratched or broken in the ages after dentition, is obviated. Now to shew how little this principle is acted on at present, of six hundred and seventy-one cases of vaccination, I found that not quite one hundred were under six months, and only one hundred and eighty-nine were under a twelvemonth: of these cases, then, about five hundred, or five-sixths of the whole, were vaccinated at an age the least favourable for the operation, and we may therefore calculate, that in a large proportion, by accident or otherwise, the proper and protective course of the operation was interfered with. Should it be found upon inquiry that the experience of other surgeons tallies with mine, will not this alone be a fully sufficient reason for attempting some public measure for better regulating the practice of vaccination? If we want further proof of the neglect of vaccination, we find it in the numbers of cases of smallpox occurring in unvaccinated persons, when the disease becomes epidemic. If due means were exercised to diffuse the blessings of vaccination as universally as they ought to be, we should have few, if any, cases left to the unmitigated fury of the pestilence: whereas we know that of the entire cases of small-pox, those occurring in unvaccinated persons generally bear a very large proportion, even in the present day. This surely ought not to be, now that we have known, and had the opportunity of appreciating, the value of vaccination for upwards of thirty years. It was, as you well know, the fond hope of the great discoverer of vaccination that the extermination of small pox was not only possible but probable; and though the experience of late years has entirely damped this hope, yet I believe I am fully borne out by fact, in saying that we may advance far, very far, beyond our present state of security, by the adoption of proper precautions; in short, I am conviuced that if we may not hope for its extermination, we may certainly keep it in check: if the monster cannot be destroyed, he may be effectually chained.

I am informed by Professor Hecker, of Berlin, that small-pox, since the general and systematic adoption of re-vaccination, is almost unknown in Prussia, except as a mild and insignificant disease. From Professor Holst, of Christiania, I find that in Norway this disease was for fourteen years after the introduction of vaccination entirely unknown, so that for many years the professor of medicine did not think it necessary to lecture upon it; and that country is now, on account of a recent visit from it, following the example of Prussia in establishing a regular system of re-vaccination. All countries acknowledge the value of vaccination as a preventive in many cases, and as a powerful check upon the virulence of small-pox in almost all others; and when the laws which regulate its influence shall have been investigated, the defects in our present system

of operation discovered, and the proper course clearly laid down and thoroughly acted upon, I doubt not that at any rate we may stand as well as we see that other countries do: in fact, it cannot be considered otherwise than a disgrace to us that this country, in which the great prophylactic discovery originated, should be so far behind others in the practical application of it. How does shame reflect upon us as a nation for the folly of having hitherto left ourselves exposed to the attacks of this enemy, without any adequate public measures of precaution or defence. In Norway, Sweden, Denmark, Prussia, Russia, Austria, in fact, in almost all the principal continental states of Europe, legislative enactments render vaccination compulsory. They also limit the practice of the operation to regularly educated practitioners; and to insure as far as possible the due and proper performance of it, every vaccinating surgeon is required to report the particulars of such a case to a person appointed for that purpose. What is the case in this country? The only encouragement given by government to vaccination, the only check provided by it against the fearful irruptions of the torrent, is the National Vaccine Institution, whose influence, except for the mere supply of virus, is entirely limited to the metropolis. No rewards, no encouragements, and, still more, no compulsory measures, are employed to act against the natural apathy of those multitudes who will not look forward for their own security and that of their families. Then, again, vaccination may be performed by any one, however ignorant and incompetent; and hundreds, indeed I may safely say thousands, are annually vaccinated in this way, by persons who know nothing of the difficulties likely to occur in the progress of the full protective development.

I fear that at present we possess no permanent sign as an infallible proof of the full and protective action of vaccination having taken place in the system. The only sign that has hitherto been relied on, is the scar which has been left upon the arm after the operation. Upon the appearance which this presents, the opinion of security is entirely grounded in the army and navy, and indeed we may say generally. It remains yet to be proved how far my observations are correct; but as far as they have gone hitherto, they lead me to the conclusion that this mark is by no means deserving of our full confidence. Of fifty-seven cases which I examined last year, which had been fully exposed to the contagion of small-pox and had escaped, only six bore perfect marks; in fourteen the marks were slightly defective, in thirty very imperfect, and in seven there was no mark at all. In seventy-seven cases of small-pox after vaccination, where the arms were examined, one bore a perfect mark, fourteen were slightly defective, forty-seven were very imperfect, and fifteen had no mark. Now, the comparison of these lists evidently shews something in favour of the cicatrix, as a criterion of safety, but by no means equal to what is desirable on a point where accuracy is of so much importance. Of the hundred and thirty-four cases just mentioned as exposed to the contagion of small-pox after vaccination, and of which fifty-seven escaped, and seventy-seven failed, only seven shewed perfect marks, and of these one failed; twenty-eight more bore marks which we should be inclined to rely upon, though not quite perfect, and of these fourteen failed; while of seventy-seven, with very imperfect marks, thirty escaped, and of twenty-two with no mark at all, seven escaped. It is painful to shake the foundations of our confidence—to find that hollow and unsound upon which we were reposing in security; but the way to rest in safety is to look the truth in the face, and when a part of the building is defective, to endeavour to replace it with a material more durable and more worthy of our confidence. The question, then, of the characters, the progress, and the durability of the vaccine cicatrix, I would hope to see investigated by the proposed section. This question, however, which I have alluded to only as affording one palpable instance of what there is yet to be learned in the general inquiry on vaccination, is but one of the least among a great number of interest and importance which must occupy the attention of the section. You all know that since the occurrence of small-pox after vaccination, a theory has been started, and pretty generally received, that the protecting power of vaccination wears out in the course of time, and consequently the renewal of its influence becomes necessary. Now, supposing this theory to be correct, what is the limit of the duration of the protective power, and after what interval does revaccination become necessary? This matter is at present *sub judice*, or rather, it is answered only according to the judgment or caprice of each practitioner; some fixing the term for a very short time, and others at seven, ten, fifteen, and twenty years.

The Prussian Govarnment has ordered that the army should be revaccinated every third year, and as a measure of extreme precaution this probably is well where it is practicable; but this proceeding is not of course to be considered as pointing out

the precise term of protective duration. Dr. Otto, of Copenhagen, states that only those vaccinated persons were attacked with small-pox whose vaccination had taken taken place five years previously.

This statement, however, will not be borne out by the experience of this country. The difficulty in ascertaining correctly this law of the protective power is very great. Of course we are arrested *in limine* till we have satisfactorily shewn what are the permanent as well as temporary signs of the true protective vaccination. This datum is essential before we can find a starting point from which to calculate. All the calculations, therefore, which have been hitherto made to ascertain the limit of the protective power, must be received as only an approximation to the truth.

PRIZES OFFERED BY THE INSTITUTE OF FRANCE.

The subject of the dissertations for the chief prize in *physique*, offered by the Institute, for 1839 (no sufficient answer being sent in 1838), is, "To determine by anatomical researches, and by acoustic and physiological experiments, what is the mechanism of the production of the voice in man and mammalia."

The other subject for 1839, is, "To determine by precise experiments what is the succession of chemical, physical, and organic changes, which takes place in the ovum during the development of the fœtus in birds and batrachia. The candidates must take account of the relation of the ovum with the medium naturally surrounding it, and examine by direct experiments the influence of artificial variations of the temperature, and of the chemical composition of this medium."

For the Montyan Prize, for the best essay on experimental physiology, a gold medal of 895 francs value will be bestowed. (Papers must be sent in before the 1st of April, 1839.)

The Academy proposes also a Prize of 10,000 francs for the best answer to the following questions:—

Is the preservative power of vaccination absolute or only temporary? In the latter case, to determine by precise experiments and authentic facts the time during which it exercises its preservative power.

Has the cow-pox (as communicated direct from the cow) a more certain or more permanent preservative power than the vaccine matter which has been already employed in a greater or less number of successive vaccinations?

Supposing the preservative power of the vaccine matter to become less after a time, should it, and by what means can it, be renewed?

Has the greater or less intensity of the local phenomena of vaccination any relation to its power of preserving from small-pox?

Is it necessary to vaccinate the same person several times; and, in the affirmative case, after how many years ought the vaccination to be repeated?

The memoirs must be sent to the Secretary of the Academy of Sciences before the 1st of April, 1842.

M. Manni (professor at the University of Bonn) offers a Prize of 1500 francs for the best essay in answer to these questions—"What are the distinctive characters of apparent death? What are the means of preventing premature interment?

The memoirs must be sent to the Secretary of the Academy before the 1st of April, 1839.

SCARLET CLOTH.

This was once supposed to have medicinal properties. The following is part of a lady's prescription:—

> And these, applied with a right *scarlet cloth*. *B. Jons. Volpone*, iij. 2.

It is reported by Dr. John Gaddesden that by wrapping a patient in scarlet, he cured him of the small-pox, without leaving so much as one mark in his face; and he commended it as an excellent method of cure:—"*Capiatur scarlatum, et involvatur variolosus totaliter, sicut ego feci, et est bona cura.*"—*Whalley's Note.*

To this day, I believe, there are persons who rely much on the virtues of *blue flannel, nine times dyed*, to cure the rheumatism; of equal efficacy, I presume, with the scarlet cloth in the small-pox.—*Nares's Glostary.*

DEAFNESS.

We are requested to intimate, that a committee having been appointed at the Newcastle meeting of the British Association, held in the month of August last, for the purpose of considering and reporting on the instrument which may be best adapted for assisting the hearing in cases of deafness, the committee will be happy in being favoured with the co-operation of such persons as may be disposed to assist their inquiries, either by suggestions, or by the loan of instruments or apparatus, in explanation of their views. Letters or parcels are requested to be transmitted, postage or carriage paid, to the care of Messrs. Taylor, Red Lion Court, Fleet Street, printers to the association.

OF

DRUGS ON SALE IN THE ENGLISH MARKET,

With their Prices and several Duties.

(From the Official Returns, December 24, 1838.)

	Price.			Duty.	Duty Paid.	
					In 1838 to last week	Same time last year.
	£ s. d.	£ s. d.		s. d.		
Aloes, Barbadoes, D.P. c	12 0 0	to 30 0 0	B P. lb	0 2	101,936	110,911
Hepatic (dry) BD..... c	5 0 0	14 0 0	F. lb	0 8		
Cape, BD. c	2 7 0	——				
Anise, Oil of, German, D.P....lb	0 9 6	0 9 6	F. lb	1 4	133	251
E. I. .....lb	0 6 0	0 6 0	E. I.	1 4	2,299	2,574
Asafœtida, B.D. c	2 10 0	5 0 0	c	6 0	60	34
Balsam, Canada, D.P. .....lb	0 1 3	0 1 4	lb	0 1	7,259	2,491
Copaiba, BD.....lb	0 4 0	0 4 6	c	4 0	275	278
Peru, BD. .....lb	0 4 0	——	lb	1 0	1,798	1,331
Benzoin (best) BD..... c	25 0 0	50 0 0	c	4 0	115	164
Camphor, unrefined, BD..... c	10 10 0	——	c	1 0	651	496
Cantharides, D.P. .....lb	0 5 3	0 5 6	lb	1 0	15,575	24,568
Caraway, Oil of, D.P. .....lb	0 8 0	0 8 6	lb	4 0	1,298	1,603
Cascarilla or Eleutheria Bark, D.P.C.	3 10 0	——	lb	0 1	4,579	3,483
Cassia, Oil of, BD.....lb	0 6 6	0 6 6	lb	1 4	4,342	3,831
Castor Oil, East India, BD .....lb	0 0 4	0 0 9	c	1 3	5,431	6,388
West I. (bottle) D.P. 1½ lb	——	——		——		
Castoreum, American .....lb	0 17 0	0 18 0	lb	0 6	891	467
D.P. Hudson's Bay .....lb	0 18 0	1 0 0				
Russian.....lb	none					
Catechu, BD. Pale c	1 2 0	——	c	1 0	37,201	32,215
Dark	3 0 0	——				
Cinchona Bark, Pale (Crown)....lb	0 2 0	0 3 6	lb	0 1	108,502	141,071
BD. Red .....lb	0 2 0	0 4 0				
Yellow .....lb	0 3 6	0 3 8				
Colocynth, Turkey .....lb	0 2 6	0 4 0	lb	0 2	15,715	13,511
D.P. Mogadore .....lb	0 3 0	——				
Calumba Root, BD. c	0 12 0	1 15 0	lb	0 2	19,805	15,843
Cubebs, BD. c	3 15 0	4 0 0	lb	0 6	29,487	35,995
Gamboge, BD. c	5 0 0	15 0 0	c	4 0	96	88
Gentian, D.P. c	1 4 0	——	c	4 0	511	461
Guaiacum, D.P.....lb	0 1 0	0 1 8	c	6 0	40	56
Gum Arabic, Turkey, fine, D.P... c	10 0 0	10 10 0				
Do. seconds, D.P. .. c	7 7 0	7 10 0	c	6 0	9,485	5,146
Barbary, brown, BD. c	2 0 0	——				
Do. white, D.P..... c	4 10 0	——				
E. I. fine yellow, BD. c	2 14 0	3 0 0	c	6 0	6,745	2,705
Do. dark brown, B.D. c	1 15 0	2 5 0				
—— Senegal garblings, D.P. c	3 6 0	——	c	6 0	22,824	4,198
—— Tragacanth, D.P. c	8 0 0	12 0 0	c	6 0	455	417
Iceland Moss (Lichen), D.P. ....lb	0 0 2½	0 0 3	lb	0 1	5,179	12,845
Ipecacuanha Root, B.D. .....lb	0 1 9	0 2 0	lb	1 0	12,426	11,352
Jalap, BD. .....lb	0 2 9	0 3 0	lb	0 6	42,464	56,355
Manna, flaky, BD. .....lb	0 4 0	0 5 6	lb	0 3	13,450	20,504
Sicilian, BD. .....lb	0 1 7	——				
Musk, China, BD. .....oz	1 0 0	1 8 0	oz	6 0	2,274	2,234
Myrrh, East India, BD. c	5 0 0	14 0 0	c	6 0	176	151
Turkey, BD..... c	2 0 0	11 10 0				
Nux Vomica, BD.....lb	0 8 0	0 9 0	lb	2 6	1,017	1,273
Opium, Turkey, BD. .....lb	0 14 6	——	lb	1 0	30,407	36,453
Peppermint, Oil of, F. BD.....lb	1 0 0	——	lb	4 0	990	1,099
Quicksilver, BD. .....lb	0 3 8	——	lb	0 1	392,137	310,031
Rhubarb, East India, BD.....lb	0 2 6	0 4 0	lb	1 0	36,538	44,420
Dutch, trimmed, D.P. lb	0 3 6	0 5 0	F. lb	1 0	7,052	5,946
Russian, BD. .....lb	0 8 3	——				
Saffron, French, BD. .....lb	0 18 0	——	lb	1 0	5,296	5,092
Spanish .....lb	0 19 0	1 0 0				
Sarsaparilla, Honduras, BD.....lb	0 1 0	0 1 9	lb	0 6	118,987	100,626
Lisbon, BD. .....lb	0 2 0	——				
Scammony, Smyrna, D.P.....lb	——	——	lb	2 6	7,128	8,130
Aleppo .....lb	0 18 0	1 0 0				
Senna, East India, BD. .....lb	0 0 3	0 0 4	E.I. lb	0 6	71,410	96,957
Alexandria, D.P.....lb	0 1 9	0 1 10	Other sorts	0 6	67,847	56,392
Smyrna, D.P. .....lb	0 1 0	0 1 3				
Tripoli, D.P. .....lb	0 1 0	0 1 3				

‡§‡ BD. In Bond.—c. Cwt.—B. P. British Possessions.—F. Foreign.—D. P. Duty paid.

REPORTED RESIGNATION AT UNIVERSITY COLLEGE.

It is reported (but with what truth we are unable to say) that a learned Professor at University College has tendered his resignation, dissatisfied with the opposition which has been given to his investigations on the subject of animal magnetism. We give the rumour as it has reached us, but without pledging ourselves for its accuracy.

ACUPUNCTURATION.

To the Editor of the Medical Gazette.

Sir,

The advantages of acupuncturation in cases of anasarcous extremities, over the highly dangerous practice of scarifications and incisions, are now so generally admitted, that I think we are likely to avail ourselves of this very important improvement, without once endeavouring to ascertain the source from which we have received it.

"Honour to whom honour is due," sir, is a high and a righteous principle; and I have been not a little apprehensive, since reading one of those interesting lectures of Dr. Graves, of Dublin, which appeared in your journal for October 20th, that the honour of this improvement may be appropriated by individuals who have no claim to its origination.

In this instance, I believe we are indebted to Mr. Hunter, of Islington, who has been in the habit of thus relieving persons labouring under these affections, for the last twenty years; of this fact Dr. Farre is fully aware. For its more general introduction among the profession, we are indebted to the following incident:—Mr. Hunter was attending, with Dr. Farre, a case of dropsy with anasarca of the lower extremities, some fifteen or sixteen years ago, to which Sir B. Brodie was also called. Dr. Farre proposed relieving the great distension of the limbs by puncturing, to which Sir B. Brodie objected, on account of the risk of erysipelas and sloughing, Dr. Farre replied, that Mr. Hunter had a method of doing it, in which there was no risk of such consequences. Mr. H. was requested to do it, and afforded much relief to the patient, without any unpleasant consequences. A short time afterwards, Sir B. had occasion to perform a similar duty for his majesty, George the Fourth, and with the most beneficial results. If my memory serves me right, Sir Benjamin Brodie recommended the plan to his pupils, in a clinical lecture, some short time afterwards; which, I suppose, has materially conduced to bring it so extensively before the profession.

In reference to the operation itself, and the instruments, they are most simple; but I would just remark, that Mr. Hunter always prefers the outside of the knee for making the punctures, and considers the drain most permanent and extensive from that point. Neither is it necessary that the practitioner should be describing *imaginary angles and squares*, as Dr. Graves intimates; a small interspace is all that need be attended to in making these punctures.

I hope you will excuse me, sir, thus trespassing on your columns, but I conceive this to be an act of public duty (which I think is too much neglected amongst us) to a gentleman of most sound practical acquaintance with his profession, and whose character can receive no additional lustre from this or a much greater improvement.

I have the honour to be, sir,
Your obedient servant,
John Armstrong.

Gravesend, Dec. 24, 1838.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, December 27.

John Stothard Bartrum, Bath.—Edgar Dumaresq Batt, Brecon.—John Anthony Moore, Bolton-le-Moors.—Frederick Mackenzie, Bedford.—William Robert Boyes.—Horace Palmer, Burgh Castle.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Dec.* 25, 1838.

Abscess	2	Hooping Cough	7
Age and Debility	19	Inflammation	6
Apoplexy	1	Lungs and Pleura	8
Asthma	6	Influenza	1
Consumption	34	Measles	1
Convulsions	16	Mortification	3
Dentition	1	Paralysis	1
Dropsy	6	Small-pox	11
Dropsy in the Brain	6	Sore Throat and Quinsey	1
Dropsy in the Chest	1	Thrush	1
Fever	15	Unknown Causes	49
Fever, Scarlet	2		
Fever, Typhus	2	Casualties	12
Heart, diseased	2		

Decrease of Burials, as compared with the preceding week . . . 15

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

December.	Thermometer.		Barometer.	
Thursday . 20	from 25	to 40	30·08	to 30·19
Friday . . 21	31	37	30·22	30·19
Saturday . 22	30	40	30·05	29·87
Sunday . . 23	33	45	29·59	29·39
Monday . . 24	39	43	29·41	29 42
Tuesday . . 25	28	35	29·54	29·83
Wednesday 26	22	39	29 89	29·51

Prevailing wind, S.E.

Except the 25th, generally cloudy; rain fell on the 22d, 23d, 24th, and 26th.

Rain fallen, ·35 of an inch.

Charles Henry Adams.

Wilson & Son, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, JANUARY 5, 1839.

LECTURES

ON

TUMORS OF THE BONES,

Delivered at St. George's Hospital,

BY MR. CÆSAR HAWKINS.

Causes of Exostoses—Local—Constitutional—Hereditary — Malignant? — Treatment of Exostoses.

Medical Treatment.

Operative Treatment.

1. *Of Osseous and Cartilaginous Exostoses on the Exterior of a Bone.*
2. *Of Cartilaginous Exostoses in the Cancelli of a Bone.*
3. *Of Ivory Exostoses.*

III.—*Osteosarcomatous Tumors.*

1. *Fibrous Osteosarcomatous Tumors.*
   - *a. Solid.*
   - *b. Radiated.*
   - *c. Granular.*

Formation of Cysts.—Immense size.—Diagnosis.—Treatment. — Malignant? — Excision or Amputation. — Various Situations for the Disease.

THE causes of all the three varieties of exostoses which have been described to you are numerous:—they may arise from blows and other injuries; from cold; from pressure; as the sequel of common inflammation: they may arise from violent exertion, whence their situation frequently near the insertion of tendons; from the irritation of a diseased joint or tooth; but very often no particular cause for their production can be pointed out, except some peculiar unknown local action.

No doubt, however, there is frequently a constitutional condition on which they originally depend, whence they are sometimes numerous in the same individual, and by a change in the system the cause ceases, and they no longer increase in size or number. Hence, too, it often happens that there is at the same time a disposition for the conversion of soft parts into bone, as well as for the production of exostoses; as when tendons or ligaments are ossified, as in these preparations.

In a remarkable case published by Mr. Abernethy, this diathesis was so strong, that in a boy that every blow or other injury would produce an exostosis, while many of the muscles and tendons, especially the ligamentum nuchæ and margins of the axillæ, were ossified, so as to fix his neck immoveably, and pinion his arms to his sides. The most extraordinary case of this combination, however, is in the skeleton of a Mr. Jeffs, in the museum of the College of Surgeons, who died at the age of 39, with half the muscles of his body ossified, in addition to numerous exostoses, and who must have been a wretched cripple, incapable of bending his body, or of moving hand or foot. But, although often combined in the same person, the two circumstances would not appear to arise from exactly the same condition of the system, since the ossification of the fibrous textures is chiefly met with in elderly persons with declining powers, while the exostoses are found most commonly in young persons, not exactly children, but while still growing, from the age of 10 or 12 to 20. There is in them an exactly opposite condition to the atrophy of rickets; a hypertrophy of the osseous system, occasioning these depositions of bone in irregular forms and situations. It seems, too, from observation, that, as in the mollities ossium, there is sometimes an excess of phosphatic salts carried off by the kidneys, so in cases of exostoses there is sometimes, but by no means constantly, a deficiency of saline material in the urine; there is an irregularity of action in those organs, the primary source of which, as in rickets or

gout, is doubtless to be sought in the digestive organs.

The disposition to ossific deposits is, perhaps, sometimes so decided, as to be hereditary in families; for instance, Boyer mentions the case of a woman, whose thigh was amputated for an osteosarcomatous tumor, and who had also several others in other parts of her body, which are not described as if they were malignant, whose father, brother, sisters, nephews, and children, I know not how many of them, all had bony tumors of some sort or other, and some of them several, on the ribs, tibia, or other bones. And Mr. Stanley, in his lectures at the College of Surgeons, said, that he knew a man in St. Bartholomew's Hospital for exostoses, numerous exostoses having also been formed in two of his children, and in his father also previously.

There is yet one other circumstance connected with the constitutional origin of osseous deposits, such as was shewn in a case under the care of Mr. Hunter, in this hospital; you may see in the College of Surgeons a very large bony tumor of the thigh bone, probably a fibrous osteosarcomatous tumor, amputated by Mr. Hunter, five months after its being detected, in which case, about a month after the operation, before the stump was quite healed, difficulty of breathing came on, which was fatal in three weeks more. You may see, further, numerous ossific deposits found in the pleuræ, half an inch or an inch in thickness, and several inches in diameter, some of them loose, while others are attached to the ribs and to the surface of the vertebræ; and both lungs have great masses of loosely-formed bone in their parenchymatous structure, so large as to preserve the form of the lungs, as if they had been converted into bone, and of several pounds weight. This instance is sometimes called a proof of the malignant nature of exostoses and simple bony tumors; but it is a depraved state of constitution, as scrofula is, rather than a malignant condition of system. Exostoses do not exert any influence on the surrounding textures, nor on the absorbents; and Mr. Hunter's case is a rare exception to the general rule, as to distant parts. Mr. Travers once saw, he tells us, bone formed in the glands of the groin after the amputation of the tumor of the bone below; but the tumor was one of fungus hæmatodes, and the deposit of bone was conjoined with malignant substance in the glands, and was, I conceive, an accidental coincidence.

Next, then, as to the treatment of exostoses, which may be directed, in accordance with what I have just told you of their constitutional origin, to the state of system generally. It is probable, however, that when the diathesis is so strong as thus to occasion ossification extensively of the soft parts, the state of system is an incurable one. From the chemical examination of exostoses it is no wonder that acids, both internally and externally, should have been employed, but without any advantage from this empirical plan. But more probability exists of doing good from the study of the state of the digestive organs, and general health, of an individual labouring under exostoses, taking the condition of the urine also as one evidence of their morbid state. With many exostoses there is pain and some inflammation during their rapid growth, and the treatment of inflammation of bones is then likely to check their increase; and the patient may take alterative mercurials; a grain of calomel, with five grains of extract of hemlock, night and morning; or three grains of blue pill, and four or five grains of extract of rhubarb, every night; and these may be combined with sarsaparilla and small quantities of hydriodate of potassa, in weak persons, or those who are debilitated by the pain of the tumors. The mercurial medicines and sarsaparilla are recommended by Sir A. Cooper, in the essay I have alluded to; and they are useful, probably, where inflammation exists, as they also check sometimes malignant tumors. You can do good, too, by local means: when painful and rapidly growing, by warm plasters, mercurial, or of ammoniacum plaster, or by blisters; and if the exostosis is near the skin, by the occasional use of a few leeches, and by cold evaporating lotions. These measures seem especially useful in the hard osseous exostoses.

In cases of the external cartilaginous exostoses, it is probable that where the proportion of cartilage is considerable, their growth may be checked by the use of mercury and iodine. A man, about 40 years of age, came under my care in the hospital, who had suffered such violent pain about the knee for five years, as to have been incapable of exertion during that time, and to have been in the habit of taking laudanum to the extent sometimes of a wine-glassful in the day, to gain some relief. Various remedies had been made use of to the knee, and he had been already in more than one hospital; but it had not been observed, even by the patient himself, that the lower half of the femur was nearly thrice its proper size, hard and knobbed in some parts, but with a good deal of firm substance, which I believe to have been cartilage in others; the tumor being, however, notwithstanding his intense pain, wholly free from tenderness or apparent inflammation. He rubbed

over the thigh an ointment composed of one drachm of hydriodate of potash, with one ounce of the milder mercurial ointment, and in about two months was wholly free from pain, and a third of the swelling of the bone had disappeared, leaving only the ossific part. When he went to his employment again, there was a slight return of pain, and fresh formation of soft substance, and I took him in a second time for three or four weeks, with the same result, from using the ointment again. He did not return again, and I conclude he continued well. This tumor was so different from the usual appearance and symptoms of inflammatory growth of the thigh-bone, and so different also from any malignant tumor, that I am inclined to believe it was one of the general external cartilaginous growths, which I shewed you in the last lecture, in the humerus; and as the same remedy sometimes, I believe, does good in the analogous formation of the fibrous osteo-sarcoma of the bones, it is at all events worth trying before removing a limb for such a tumor.

For the third species, the ivory exostosis, I conclude neither general nor local means would do any thing towards checking its growth, but measures are sometimes required to obviate its effects upon the brain, when situated on the cranium.

I have next to speak to you of the operations which may be performed for exostoses; and 1st, as to the osseous and cartilaginous exostoses, when situated on the *external* surface of a bone. If stationary, and giving no trouble or pain, what I have already mentioned is all that should be done; but when, on the other hand, they are painful or inconvenient, or interfere with the functions of the parts among which they are situated, then an operation for their removal is required, nor is it difficult of execution: several of these exostoses before you have thus been excised. In healthy persons the wound may unite well, but very often suppuration is established, and if matter is confined the muscles are separated from their attachment, as the vasti from the femur. It is better, on this account, to cut through a muscle, when it is in the way, rather than use violence in holding the sides of the wound apart, and to put lint into the wound to prevent deep suppuration; in which cases sometimes, especially in irritable constitutions, severe and even fatal symptoms are produced. This preparation, for instance, was removed from the inside of the thigh in a young man, who had great irritation from the operation and copious secondary hæmorrhage, from the combined influence of which he ultimately sunk. I recollect another exostosis, which was removed from the same situation, in which such copious suppuration followed the operation that the patient very nearly died from its effects. The surface of bone, where denuded, does not in such cases unite with the muscle in contact with it, and hence the mischief alluded to.

In performing the operation, you have to make an incision down to the bone, so as to lay bare the exostosis, and the edges of the incision being held aside by spatulæ or blunt hooks, a small osseous or cartilaginous tumor may at once be cut off from the bone by a straight pair of cutting forceps, of which a variety are before you, and which cut on different planes, according to the situation of the root of the morbid growth; and some of which are also made with compound hinges, with a view of giving them greater power. Where the exostosis has a broad base, you require a saw; some of which you may examine after the lecture: of these, one is worked, as you see, by a winch, and is circular, and has forceps to hold the tumor, and was invented by a Mr. Machin. Another is a chain saw, to act in a limited space, smaller even than the other. But what is better than either of these complicated instruments (the disadvantages of which will be apparent when you look at them), is a small, strong, key-hole saw, or Hey's saw, the teeth of which are made broad and set apart. Or instead of using only this instrument to saw through the whole base of the tumor, you may cut partly through it, and then break off the remaining attachment with a pair off forceps, or strong elevator, or chisel. The cartilaginous exostosis has its bony centre sometimes so fine in texture, or so small, as easily to be broken off a little manœuvring with the chisel. I do not mean a chisel to be forced through by a mallet, but worked quietly in the hand, and used partly as an elevator. If you cannot break it off thus, the small saw or forceps will succeed in doing so with great facility.

Sir Astley Cooper proposed, as an operation for exostosis, the exposure of the tumor, and depriving it of its periosteum, so as to make it die and exfoliate. But I cannot conceive the necessity, in any case, of so tedious a process, and one that must be uncertain too, since the tumor has its internal blood-vessels, which may still keep it alive after the periosteum is removed. Wherever you could cut down on an exostosis, so as thus to denude it entirely, you could also, with even greater ease in most cases, remove it altogether. Some unusual situation for an exostosis may sometimes require anatomical knowledge; as, for instance, a cartilaginous exostosis of the os hyoides, such as Dr. Warren describes

a case of; but the removal is seldom called for in important situations, and must, I imagine, be always preferable to the mere exposure.

2dly. When a cartilaginous exostosis is situated in the *cancellous* structure of a bone, as in a case of this kind in the lower jaw, which I related to you in the last lecture, you must expose the tumor and break it away from its attachment, opening the whole of the cavity in which it lies, that you may be sure that all the tumor is accessible. The shell is usually thin enough to cut a hole through it with a strong knife, or with a trephine at any rate, which opening may then be enlarged by a cutting forceps or strong knife; after which the cartilaginous mass may be dug out with an elevator or chisel. This was done in the case which I told you I had seen, under Sir Benjamin Brodie's care. Sir A. Cooper describes a similar operation of his own, in the same bone; and he remarked the dental nerve and vessels lying the bottom of the cavity. The shell of bone is remodelled surprisingly, in no long time after the operation.

3dly. A cartilaginous tumor around the whole of a bone can only be removed by amputation; as here I removed the finger, or as this tumor of the humerus must have been amputated at the shoulder-joint.

4thly. As to the *ivory exostosis*, the question of operation is more difficult. Ought you in general to meddle with them at all? Recollect, as this example shews you, that in the cranium the tumor often grows internally also; so that you can only remove the outer part, which was done for the portion of new growth here seen, and in which the tumor was ultimately fatal. I recommend you, therefore, if the tumor is quiet and not growing fast, to do nothing for it, even if it were for this reason only; but if too troublesome to the patient to be thus left to itself, recollect that the tumor, from its extending through the whole thickness of the bone in most instances, can only be operated on with great risk and danger, even if you succeeded in the attempt. How is the removal to be effected, however? I am inclined to believe, that, on the whole, exfoliation by caustic is the best, where the base is as usual broad, and the prominence not great, in consequence of the difficulty in sawing through so hard a kind of bone. This small piece required an hour's sawing to remove it, and spoiled more than one saw. The man from whom these pieces separated was in this hospital, under Sir Benjamin Brodie, with an ivory exostosis of the frontal bone, just at the edge of the orbit, which Sir A. Cooper had tried in vain to saw off horizontally several years before, the mark of which you may still see; but by repeated applications of caustic it ultimately exfoliated I recollect another patient, under Mr. Keate's care, nearly at the same time as this young man, with a similar exostosis of the frontal bone, both growing towards the orbit and occasioning proptosis; in whom Mr. Keate made this perpendicular cut with a trephine, but was obliged to desist from the hardness of the tumor. He continued to attend for several years, from time to time, and had various caustics applied, especially potassa fusa and nitric acid, and ultimately this large piece exfoliated; in which, owing to its extreme density, so little change has been produced that the hole made by the trephine is as distinct as when he left the operation room. The hollow left by the separation of the tumor, in both cases, produced so odd an expression of countenance, that I doubt if the patients thought themselves much improved by the cure, though it of course prevented the mischief that would have ensued if the tumors had continued to increase. There are other cases of ivory tumors on record which have thus exfoliated by the use of caustics and cautery; you may find some, for instance, of the orbit, in Mackenzie's work on the Eye; on the whole, probably, nitric acid is the best caustic, as it acts chemically on the bone, besides stimulating its vital action.

For the irregular masses I have mentioned to you as sometimes forming in several of the bones of the face at once, an operation is of course out of the question; for an ivory tumor of one bone only, as the superior maxilla, excision is practicable, while the boundaries of the morbid mass are distinct.

III.—The third order of tumors of the bones are the osteosarcomatous tumors, in which there is a mixture of a considerable quantity of soft substance of some kind or other with bone; and these tumors are of a most formidable character, from their growth, and the enormous size they sometimes attain, and from the destructive effects and malignant character of some among them. The term osteosarcoma is employed, however, very indefinitely. Sir A. Cooper recognises no distinction between a hard simple exostosis, and an immense tumor of many pounds weight, with a great mass of soft substance mixed with the bone it contains. Provided these tumors are innocent, he calls them all cartilaginous exostoses, though sometimes nothing like loose cartilage is found in them; and all the rest of the tumors of the bones, whether periosteal, or originating in the cancelli, he classes together under the name of fungous tumors, speaking of them as a kind of fungus hæmatodes. By many other persons the term osteosarcoma is employed as synonymous with

malignant disease; and yet there is no doubt that some of them are innocent in the defined sense in which you hear the term used in these lectures. Mr. Travers thinks that the greater number of the osteosarcomatous tumors of the bones are innocent, however intractable and incurable they may be; but I cannot quite agree with this opinion; for instance, if you examine either this or any other museum, the greater number of the preparations are of the malignant kinds, shewing, I conceive, at once, that the innocent tumors are much more rare.

Probably if more were known of these tumors, many of them would be found to be analogous to several of the varieties of sarcomatous tumors of the soft parts, modified by the texture of the bones, and especially by the mixture of ossific material in their composition, in consequence of their connexion with the bones. To ascertain these varieties is not a mere minute distinction, but I am persuaded that it would be of practical importance to make out their distinctive characters clearly.

III.—1. The first genus I will call the *fibrous osteosarcomatous tumor*, by which I mean that it originates in the fibrous texture of the periosteum and substance of the bone, and is consequently like the fibrous tumor of fascia or cellular substance in its nature and character; the main difference being, that although fibrous in texture like them, it is partly osseous also, from its peculiarity of origin. That these tumors arise from, and derive their nature from, the periosteum chiefly, is evident from these circumstances—1st, that you will meet with them entirely on the outside of a bone, without any apparent alteration in the cancelli; and 2dly, you never meet with such a structure well-marked in the interior of a bone, without having some also, and generally to a greater extent, on the outside; 3rdly, those fibrous osteosarcomatous tumors which arise first from the more loose membrane in the texture of the bone are less dense and fibrous than those which originate from the external periosteum, and have less bone in them than there is in the centre of the periosteal tumor; 4thly, if the tumor arise within the original bone, its texture is not only less osseous and more granulated and soft, but as it spreads outwards to the periosteum it becomes more firm and fibrous than the interior part of the same tumor; but if, 5thly, the fibrous osteosarcomatous tumor originate in the periosteum, and extend inwards, you may see it first in the form of a firm fibrous substance on the outside of the bone; next, with ossification in its interior, and condensation of the outer part of the original bone; and, finally, you may perceive the cancelli filled and obliterated with osseous matter, in a state of enostosis. Even in a very large tumor the outer tumor may in this way be found on maceration entirely detached from the bone, around which it grew, in its periosteum; or when the solid bone forms one indissoluble mass with the dense bone of the fibrous tumor affixed to it, yet sometimes a section of the whole still enables you to detect the line and direction of the outer part of the original bone. The obliteration of the cancelli, however, is not a necessary sequel of the formation of a fibrous tumor in the periosteum, since the diseased action may have so little affected the interior, that even in a large tumor you may find no new bone or tumor within, or perhaps only a narrow line across the cancelli, shewing the incipient state of osseous deposit within.

a. In its most usual form, then, the tumor consists of *solid* bone in the centre of a mass of fibrous substance, the osseous growth being either external to the original bone or extending also into its interior; and the periosteum of the bone gradually passes off into, or so as to cover and surround, the fibrous structure, with which it is almost always inseparably joined. The fibrous structure is something like the fibrous cartilage of the vertebræ, or rather less dense, like a long-formed *chronic* node, but with a certain quantity of softer semifluid secretion mixed with the organized matter; and the bone is firm and dense, sometimes quite ivory in appearance, in one uniform central mass in the centre, or in various irregular masses, some of them separately formed; the whole forming a solid fibrous osteosarcomatous tumor.

b. In another case the tumor may be called the *radiated* fibrous osteosarcoma, the bone shooting out in a regularly radiated form from the surface of the original bone into the fibrous substance, or from the external part of a dense central nucleus formed on the outside of the original bone: both varieties are seen in these examples. This radiated form of the ossific matter is accidental, only, I believe: it is often seen in malignant tumors also, and, indeed, is sometimes spoken of as a proof of the malignant nature of a tumor. Mr. Crampton, for instance, in a paper on osteosarcoma, uses the term fibrous osteosarcoma as synonymous with malignant, from the radiated fibres of bone in the tumor. In the case thus related by him, of a tumor where new bone shot out like radii from the outer and inner surfaces of some of the bones of the cranium, so as to resemble hogs' bristles of three quarters of an inch in length, it is expressly men-

tioned that they were surrounded by *brain-like* substance. Now this it is that determines the character of a tumor, and not the fibrous and radiated direction of the bone, mixed with the soft substance. Here is a skull, in which the bone is radiated, I do not know its history, but, from the appearance of the bone, I conclude that this also had been a malignant disease. There is in the Museum of the College a curious example of this radiated form of bone (apparently fibrous osteosarcoma only, not malignant), in which bony radii half an inch long appear to grow from both surfaces of the frontal and parietal bones, covered and mixed with fibrous substance half an inch more in depth; when macerated, however, as a portion has been, it is seen that the original bone is perfectly sound, and the radiated bone on its outside and inner surface is quite loose, and must therefore have been formed in the pericranium and outer part of the dura mater.

If a fibrous osteosarcomatous tumor is macerated in acid, so as to deprive it of its osseous material, the distinctive character of a radiated appearance still remains; the solid form of tumor having a dense fibrous structure in its centre, where the bone had been hard and consolidated, and the radiated form still shewing the animal matter of the same regular appearance; while others shew the dense half-cartilaginous matter in the interior, with fibrous substance on the outside of a perfectly radiated figure—facts which demonstrate, as I conceive, that it is the mode in which the animal nidus is formed that determines the figure and order in which the osseous substance is afterwards to be deposited within it.

c. A third form in which a fibrous osteosarcomatous tumor is seen, is that in which the structure is less dense and fibrous; portions are brittle and granular, with a certain quantity of fluid in cells mixed with the fibrous and granular structure. Mr. Crampton assigns this as the type in which all innocent osteosarcomatous tumors are formed; but I think it is not so common as the two other forms, and I believe it chiefly depends on the growth being dependent on the vessels of the bone itself, and not on the vessels of the periosteum—on its being more of an internal than an external formation; so that separate parts of the same tumor often exhibit both kinds of structure—the solid fibrous and semicartilaginous material, mixed with the looser granulated texture; and in an early stage, in the lower jaw, where this species is most common, the solid and radiated fibrous texture may distinctly be seen on the outer surface of the bone, and the granulated in the cancelli; or in a very large tumor the granulated appearance may be seen in the interstices of the more solid fibrous mass, where, consequently, the structure is more like that of the cancelli.

All three varieties of fibrous osteosarcoma are often found to contain cells of fluid, especially when they are growing rapidly; but the granular variety is most subject to them. In the solid fibrous kind the cell is usually single, and contains transparent yellowish or greenish serum; while in the granular kind the cells are sometimes exceedingly numerous, and of all sizes, and the fluid is commonly mucilaginous and glutinous rather than serous, and of every possible shade of brown or yellow colour, and of great variety of consistence. I do not know, however, that the fluid and cysts are at all essential to the character of disease, any more than in malignant tumors, in which these are frequently developed.

Fibrous osteosarcomatous tumors increase to an immense size. Observe this cast of the femur, in which bone they are not uncommon. In St. Bartholomew's Hospital is a large tumor of the same bone, which was amputated near the hip by Mr. Ramsden, which measures three feet in circumference. There is in the College Museum a dry preparation of one of these tumors, which is figured in Cheselden's Osteographia, affecting the tibia and fibula, for which amputation was performed above the knee, the amputated member being said to have weighed 69 lbs. The most extraordinary case I know of, however, both for the size of the whole tumor, and the cyst it contained, is one described by Mr. Crampton as having occurred in the thigh-bone of a gentleman, at the age of 17, and having gone on increasing till his death, at the age of 38. Four years before his death the limb measured 3 feet 6 inches, and at the time of his death had reached the unprecedented bulk of 6 feet 6 inches in circumference. The whole femur was converted into this tumor, except the head and lower extremity, the structure being of the granulated kind; and in the interior was one immense cyst, containing several quarts of dark thick fluid. And yet this gentleman had enjoyed good health, and had walked on the affected limb till his death, which took place after only four days' illness, during which time he vomited an immense quantity of liquid, said to have exactly resembled that contained in the cyst, and by which he was in fact suffocated. Mr. Crampton gives this vomiting as a decided instance of metastasis; but the cyst being full on its examination, and being some little distance from, and not related in any manner to the stomach, you may believe it to have been so, or not, as you please.

The structure of a fibrous osteosarcomatous tumor being, then, such as I have described, how are you to recognise it in the living person? In truth, I know no positive distinction between one of these and any other solid tumor connected with a bone, especially where it is much covered by muscle or other substance. It is very like a medullary tumor; but, if superficial, perhaps you may recognise in the latter a smoother and more regular outline, with less hard osseous tubercles than in the fibrous tumor. Again, it resembles fungus hæmatodes, which latter, however, generally has less regular hardness, with some parts, perhaps, of considerable softness and elasticity. Still all three are tumors of the same parts, and therefore must often be in many respects alike. The fibrous osteosarcomatous tumors are rather characterized by negative qualities than by positive: they do not often affect the health; the skin does not usually become red, or otherwise much altered, over them; the veins are not varicose in general, though this also is not a constant criterion; and further, the non-malignant nature of these tumors is proved by the event; for we have seen for how many years, and to what a great size they may grow, without any glands being enlarged, and without any change in the system, and without any morbid alteration of the parts around them. We may then, from all these facts, form a very probable conjecture as to the nature of an osteosarcomatous tumor of a bone, though I must confess there is no distinction to be confidently depended on till dissection has been made, nor, indeed, always can you even then feel quite certain; but, in general, you can satisfy yourselves that there is no malignant deposit by a careful examination, especially of the outer part of the tumor.

They are also sometimes like the encysted tumors, before the bony parietes in the one case have yielded and softened, or before enough soft substance has been formed in the other to demonstrate the difference between them. Then, again, a soft tumor, bound down by a fascia to a bone, may sometimes be very difficult to distinguish from a tumor of the bone itself. The presence or absence of pain is no criterion of the nature of a tumor, since all osseous tumors, whatever their nature, may sometimes grow slowly among unimportant parts, and give no pain when of large size, while others of small bulk may occasion much suffering from local circumstances, from pressure of nerves or muscles, and not from the qualities of the tumor itself.

Neither is the progress of the tumor locally always such as to afford an accurate diagnosis, for even an innocent fibrous osteosarcomatous tumor may, in a few instances, ulcerate and occasion great irritation, and may even sometimes shoot out a kind of fungous growth, with sloughing, and terminate fatally; and yet such a result may be caused by simple distension, or some other local state, or by the depraved condition of the general system, unconnected with the essential nature of the tumor. I dare say some of you have read an account of a case published by Mr. Abernethy, where a solid tumor of the upper jaw terminated, after sloughing and bleeding for several years, in the formation of an osseous cup, of large size, on the cheek. The nature of the tumor is not so stated as to enable one to decide whether this tumor were fibrous or hæmatoid, but it shews sloughing and bleeding for a long time in an osteosarcomatous tumor, not fatal fourteen years after this apparent evidence of malignancy; and that such a change had taken place in the action of the vessels of the mixed tumor, as to convert any after deposit into simple exostosis (probably ivory), instead of its having soft substance also in the structure.

Fibrous osteosarcomatous tumors less often become stationary than exostoses; but are they in themselves curable or remediable by medical and surgical treatment? This important question depends in great measure on their malignancy; and I have told you already, that I believe you will not find after death any contamination of the glands, nor any similar morbid deposit elsewhere, by affection of the whole system. If I could entertain any doubt as to this point, it would be as to the softer, more brittle, and somewhat lardaceous texture, which constitutes the third species of the tumor, and is chiefly seen in the lower jaw; but that tumors of this structure should continue to grow for so many years, and to so vast a size, and that so many successful operations for them should be performed, without their contaminating any other texture, is hardly consistent, I think, with the supposition of the tumors possessing any malignant qualities.

It was probably to this very species that the immense tumor of the head belonged, the cast and drawings of which are behind me (and also the enormous tumor of the thigh, which Mr. Crampton has described), from the expression used by Sir Everard Home, of part of it consisting of fat mixed with steatomatous substance.

This was a case which certainly reflected the highest credit on Sir E. Home, for the boldness and success with which he grappled with the appalling difficulties presented to him; and his patient is still

a living monument of his skill and dexterity, whom some of you have very probably seen as a nurse in this hospital, without being aware that she was such an illustrious example of the triumphs of surgery. The tumor was connected, as you may perceive, with the right parietal and frontal bones, the diploe being partly affected, and had increased to three or four times the size of the head, and reached almost down to the clavicle, with a tolerably large base. It was occasioned by the kick of a horse when she was two years old, and was suffered most unaccountably to enlarge till she was 25 years old, when it was removed in this hospital in 1816; all the soft substance being taken away on the first day, and the osseous base being sawn through on the following day by this peculiarly-shaped saw, which was so made to pass between the tumor and the orbit horizontally. She was several years cook in Sir Everard's house, at Chelsea, before she came here as a nurse; and the drawing was taken nine years after the operation, but it certainly is not a very flattering likeness, as in her cap you would not perceive a great deal wrong in her appearance. The internal table of the skull was perhaps in part affected, since she has been unequal to hard labour, from headache being occasioned by it.

In this case, then, of immense tumor, one table only of the affected bone was removed, and yet the operation has now been successful twenty-two years; an amputation, therefore, of an extremity above a tumor, removing all the diseased mass, ought to be still more likely to save the patient; and I think, in reality, there is abundant evidence of the non-malignant character of this kind of tumor, in the numerous successful operations, so that the patient may reasonably expect that the removal of the tumor will leave him safe from any return of disease; and consequently, that the term osteosarcoma is not to be employed on the supposition that all tumors deserving this name are necessarily malignant.

To stop the growth of a fibrous osteosarcomatous tumor, without the necessity for operation, would be an important object in many situations; and I think it not impossible that you can sometimes do so, by the same means I before mentioned for cartilaginous exostoses, though I have not any dissection to prove the fact. A man was under my care, with a tumor on the trochanter and neck of the femur (in the same situation nearly as this exostosis), into which I passed a needle, and found it to be a firm fibrous mass, with the bone at the bottom of it, and about three-quarters of an inch in depth, below the healthy parts. There was no inflammation and no tenderness whatever, but the patient suffered such violent pain, of apparently a nervous kind, as quite to confine him to bed, and occasion much emaciation. He used the hydriodate of potassa, with mercurial ointment, so mild as not to affect him, and took about five grains of hydriodate of potassa, and three drops of tincture of iodine, internally, three times in the day, under which treatment the tumor nearly went away, and he was able to leave his bed, thin and weak indeed, but free from pain; and I had the satisfaction of hearing that, two years after returning to his work, he continued free from his complaint. I cannot help thinking that this was a case of fibrous tumor of the bone, in which the deposit of osseous matter had scarcely commenced. A woman was more recently under my care in the hospital, with an immense tumor of the thigh, reaching from the condyles half way up the bone; it was knobby and irregular, partly composed of firm bone, but in great measure of a softish kind of fibrous substance, of some thickness, covering the masses of osseous growth, and giving the tumor a more rounded outline. The veins of the thigh were much enlarged over it; she suffered intolerable pain, without tenderness or any interference with the motions of the knee-joint; she was sleepless and emaciated, and suffered greatly from the irritation of the tumor, which Mr. Keate, who saw the case as well as myself, concluded I must remove by high amputation, as soon as her health was in a little more favourable state. She took opium and sarsaparilla, and I applied some leeches and a blister to the tumor, and afterwards made her use the hydriodate of potassa ointment; under which treatment not only did her health improve by diminution of the pain, but the soft part also of the tumor disappeared, so that the size of the thigh was much diminished, and the veins returned to their natural appearance, and I could no longer think of amputating the limb. The ointment irritated the skin, so as to prevent its being long employed, and the pain and swelling began to return once, but again went away, and she left the hospital with her health much restored, and able to walk about, without much inconvenience from the irregular bony tumor that alone remained. This tumor may perhaps have been of the third species of fibrous osteosarcoma, though I fear it was malignant; still the case is encouraging in doubtful cases, or where the patient refuses to have the tumor removed, or it is in an inaccessible situation.

But certainly, however, in the greater number of cases, there is no sensible effect from either general remedies or local

means, and a surgical operation is required for the removal of such tumors as are inconvenient from their bulk, and the deformity they occasion, or for those that excite such irritation of the system, by their rapid growth, or sloughing and ulceration, that the patient's life is endangered, if they are left untouched. Almost every part of the body may be the seat of these tumors, and most of the bones have been operated on by some person or other; some of these operations certainly requiring great skill, boldness, and anatomical knowledge, and great confidence on the part of the operator in himself, and in the courage of his patient. One great point is, always to distinguish these tumors very carefully from malignant diseases, if it is possible, so as to avoid an operation altogether, or be very guarded as to the promise of a cure from one.

a. In the head, for instance, Sir Everard Home's operation shews you what may be done in a case of fibrous osteosarcoma, but contrast this with many you will find on record, of fungous tumors of medullary and hæmatoid character; with a case, for instance, related by Sir Astley Cooper, in his Essay, where he sawed off a tumor of the cranium, the bleeding from which, with its loose spiculæ of bone, shewed its malignant character, and the irritation of which operation was followed by coma and a fatal result on the sixth day; dissection exhibiting the attachment of this tumor to the dura mater within the bone, the whole thickness of which was diseased.

In insulated situations, as in the bones of the extremities, the distinction is not quite of so much importance, since the whole tumor, whatever be its nature, is generally capable of being removed with a greater probability of all the affected part of the bone being taken away; or still more, by an amputation above the next joint. America can boast of some of the most forminable operations of tumors of the bones, especially by two surgeons whose characters vouch for the accuracy of their relations, and both of whom are partly English surgeons, as they received some of their education under Sir A. Cooper in this country.

b. One of these gentlemen, Dr. Warren, removed a tumor of the ninth rib from a man of 30 years of age, which was of six years' growth, which covered four ribs, and was seven inches in diameter. The tumor was cut off, and a director passed under the affected rib, so as to separate the diaphragm and pleura from it, and the diseased portion of the bone was then removed. The man recovered, but a short time only had elapsed, when the case was published, and the nature of the tumor is not specified. The same gentleman removed, in another case, three inches of the sixth rib, and a smaller portion of the seventh also, with a large mass of what is called thickened periosteum, but was more probably a fibrous tumor, (or else the operation must be considered unjustifiable), and this patient also was well some time after the operation. Operations of this kind on the ribs are fortunately not often called for, nor will many surgeons be found with nerve and dexterity enough to perform them so successfully.

c. Another bone of very important connexions, which has been removed for osteosarcomatous tumors, is the clavicle. The first case of this kind of which we possess any details, was by Dr. Mott, and in a letter from that gentleman to Mr. Travers, recently published, the patient is said to have been quite well ten years after the operation. It may be doubted indeed whether the tumor, which is said to have been of the size of two fists, was not of the nature of fungus hæmatodes, rather than of the fibrous kind, as there was hæmorrhage from fungous granulations in the tumor, its substance was soft, so that the bone was destroyed and moveable in the centre, although hard elsewhere, and it was so copiously supplied with blood, that forty vessels required ligatures in the operation: the result in so unpromising a case is certainly very satisfactory. Dr Warren also has performed the same operation for an osteosarcomatous tumor of this bone, of what nature is not stated, but the patient died from cold, in the fourth week. I shall also have to mention in the next lecture the removal of the clavicle by Mr. Travers, and certainly if you read the account of the manner in which the subclavian and jugular veins, the carotid artery, and nervus vagus, are connected with these tumors, and consequently also the danger on the left side incurred by the vital part, the thoracic duct, you will see that the operation is no trifling one.

d. We have seen that fibrous osteosarcoma is not uncommon in the lower jaw, and the immense size that it may attain is shewn by a horrid preparation in the Museum of the College, which looks as if it could scarcely have weighed less than fifteen pounds. Operations have very often been performed on this bone, and in general with success, and it is undoubtedly proper to be done early, on account of the inconvenience and deformity, independent of the danger arising from them. Sir A. Cooper describes a curious case, in which the tumor of this bone was allowed to be fatal by suffocation, from its pressing backwards upon the glottis. Here is a cast of a tumor of this kind of irregular figure removed at the articulation and at

the chin. Portions of the bone may be removed at any part without much risk,—from the side,—or the anterior part,—or half the jaw,—or nearly the whole may be taken away; and it is singular to witness the little inconvenience or deformity resulting from the loss of a considerable piece, a new ligamentous substance of much firmness occupying the place of the bone*. When the chin is taken away there is a danger, which Dr. Warren met with, and I think Richerand also, which you would not at first anticipate from the separation of the attachment of the muscles of the tongue and os hyoides, viz. that the tongue is sometimes drawn back with such force as actually to close the glottis, unless it is laid hold of, and fixed to the integuments, to prevent suffocation from this action of the muscles.

e. What is called epulis is really a kind of osteosarcoma of the jaws, and is therefore not curable if the affected part of the bone is left. This is a tumor of the kind which I removed, with the portion of alveolus to which it was attached, an operation having been twice performed before without success, and you may understand its connexion with the bone from this circumstance, that although only fibrous where it grew from the bone, it has nevertheless a central osseous nucleus, apart from the alveolus. I shall have occasion to speak of epulis again, and will only therefore observe that the peculiar appearance, resembling gum, whence it has its name, is only given to that part of this species of fibrous osteosarcoma, which raises and affects the gum, and is not possessed by the rest of the tumors.

f. I shall also speak hereafter of osteosarcoma of the upper jaw, but let me remind you of the case from which this preparation was taken, in which Sir Benjamin Brodie removed the whole of the upper jaw, for I hope the fibrous kind of tumor;—the external part of this is in every respect a common epulis, the central part is like the usual appearance of fibrous osteosarcoma of a bone, and an internal part projecting into the antrum derives its character from the mucous membrane, just as the outer part does from the gum, and is therefore to all appearance a fibrous polypus of the antrum, or other nasal cavity.

(Fibrous polypi, in general, are in fact closely attached to the periosteum, and a piece of bone is often drawn away with them, as in this preparation, but I shall not further allude to them at present.)

Osteosarcoma of the fibrous character is not very common in the upper jaw, the cancelli of this bone being much more disposed to the growth of medullary and fungus hæmatodes tumors. The bone was first removed, I believe, by Mr. Lizars, of Edinburgh, and M. Gensoul, of Lyons, in the same year, and it has since been very often excised, but in the greater number of instances very improperly, in consequence of the comparative infrequency of the innocent kind of growth.

g. In fibrous osteosarcoma of the bones of the extremities, it cannot be right, I conceive, except in some rare case, at the express desire of the patient, to attempt to excise the tumor from the bone to which it is attached, as the basis of periosteum and bone is seldom small and defined enough to expect a satisfactory result, and an amputation of the member must therefore be preferable; sometimes of the same bone, as amputation below the knee for a tumor of the lower part of the tibia or fibula; but more frequently above the next joint, above the knee for instance, enough bone being seldom left in a sound state for the operation below; or of the affected bone at the next joint, of the humerus for instance, at the shoulder-joint. As to a tumor of the thigh, leaving no room for amputation below the hip-joint, I confess I should think the patient better left to what fate the tumor may bring upon him, than have this very dangerous operation performed of amputation at the hip-joint; and how many years he may live with such a tumor in the enjoyment of life, is apparent from the case I related to you of Mr. Crampton's, of an enormous osteosarcoma of the femur.

CLINICAL LECTURE

ON

VARIOLOUS OPHTHALMIA, GONORRHŒAL OPHTHALMIA, AND GONNORRHŒAL RHEUMATISM,

Delivered at St. Bartholomew's Hospital,

BY WM. LAWRENCE, F.R.S., &c.

Variolous Ophthalmia.

Two sisters were brought to the hospital, who had recently passed through natural small-pox, and were labouring under the effects of variolous ophthalmia; the disorder of the eye having commenced during the active period of the eruption in one, a little time after its termination in the other.

Primary Variolous Ophthalmia.

Louisa Mitchell, 7 years old. The eruption appeared in the latter part of

* A girl is now in the hospital from whom Mr. Hawkins (on the 20th December) removed the side of the jaw from the canine tooth to the angle nearly, and a person looking at her at present would not know that any of the bone had been lost.

June. The disease was severe, and left the patient very weak. The left eye was inflamed; but, in consequence of the lids being swollen and closed, the mother had not been aware of the mischief that was going on.

May 18th, 1838.—The whole cornea of the left eye is opaque, so that the iris and pupil cannot be seen; partial vascularity of the cornea; slight external redness of the globe; no pain; considerable emaciation and debility.

Hydrarg. c. Creta gr. iiss, cum Quin. Disulph. gr. i. ter quotidie. Nutritious diet.

25th.—The health is improved. The external redness of the eye and the vascularity of the cornea have disappeared; the opacity of the latter is so much diminished that the iris and pupil are visible.

Pergat cum Quin. Disulph. Omittatur Hydrarg. c. Creta.

June 3d.—The absorption of the interstitial deposit in the cornea is proceeding rapidly, and this important structure is much clearer.

Pergat.

29th.—The cornea is quite clear, except in the centre, which remains slightly nebulous. The health is recovered. Treatment discontinued.

This child was again seen in August, when the cornea had cleared in the centre, and exhibited only a very slight dulness on accurate comparison with that of the sound eye. There could be no doubt that the vision of this eye would ultimately be perfect.

Secondary Variolous Ophthalmia.

Eliza Mitchell, 6 years old, had small-pox at the same time as her sister. Upon the subsidence of the eruption, several considerable abscesses formed; one on each scapula, one on each side of the back, and one in the axilla. It was observed that the eyes became weak during the healing of these abscesses; the left was first inflamed, and the right became similarly affected three or four days afterwards. She was brought to the hospital on the 18th of May, the disorder of the eyes being then of ten days' duration. She was weak and emaciated to the last degree; the arm not being thicker than my thumb.

In the left eye there had been a variolous pustule below the level of the pupil, near the circumference of the cornea on the temporal side. It now presented a circular ulceration, about the size of a small split pea, with a surface partly yellow. The cornea was nebulous throughout, but the iris and pupil could be distinguished through it: there was a little pus in the anterior chamber, and slight redness of the globe.

There was a small circular ulcer on the cornea of the right eye, below the pupil and towards its nasal side; in other parts it was slightly nebulous.

Hydrarg. c. Creta gr. iiss. cum Quinæ Disulph. gr. i. ter quotidie. Occasional tepid ablution of the eyes. Nutritious diet.

May 25th.—The child appears even feebler than before. The matter has disappeared from the anterior chamber of the left eye. The ulceration has become more extensive and deeper in each eye, and the cornea is more opaque.

Hydrarg. c. Creta, gr. j̄iss. omni nocte. Extracti Fluid. Decocti Sarsaparillæ co. ℥ss. ter quotidie. ℞ Olei Crotonis Tiglii, ℥i. Ol. Oliv. ℥iij. M. Infricetur pauxillum nuchæ omni nocte.

June 3d.—No improvement in the state of health; the emaciation and want of power continuing so considerable, in spite of every support from diet, that a fatal termination seems inevitable. The entire cornea of both eyes has a ragged dirty appearance, and has lost its vitality. The disorganized part is bounded by a slightly raised edge of dull red colour.

℞ Argenti Nitratis, gr. i. Aq. destill. ℥j. Misce, pro guttis, quarum instilletur i. vel. ij. inter palpebras quotidie. Extracti Cinchonæ Resinos. gr. viij. in lacte, sexta quâque horâ.

13th.—The appetite and health are improved. An abscess is forming in the upper part of the right arm. In the right eye the cornea is partly cicatrized; the surface is not cleared in the left. Treatment continued.

29th.—Considerable improvement in health and strength. The ulceration of the right eye has healed, and the globe retains its figure, except that it is somewhat flattened in front, probably from the obliteration of the anterior chamber. The remains of the cornea have assumed the appearance of a smooth opaque film. The corneal laminæ have been entirely destroyed in the right eye; the iris bulges at the opening in the sclerotica, forming a large staphylomatous protrusion, of irregular surface, covered by the membrane of the aqueous humour (staphyloma racemosum). The child slowly recovered; the staphylomatous projection of the iris receded, and the right eye remained flattened on its anterior surface, which was covered by a thin semitransparent film. Sight was irrecoverably lost in both eyes.

Secondary Variolous Ophthalmia.

Sarah Kidder, 4 years old, was brought in on June 22d, 1838, variolous eruption having appeared five weeks previously. It had been preceded by severe constitutional symptoms, including delirium and convulsions. The eyes were weak during this period. About a fortnight after the eruption had declined, a pustule had formed on the cornea of the left eye, and had increased in size to the present time.

June 22d.—Numerous marks left by the eruption on the face and body; the bowels relaxed. The cornea now presented a large circular ulceration, which occupied the central three-fourths, leaving a thin transparent margin at the circumference. The surface of the ulcer was opaque and yellow, presenting, indeed, the exact appearance of thick pus. There had been a single large variolous pustule on the cornea in this case; and the suppuration had taken the same course as under other circumstances, namely, the infiltration of a thick yellow deposit in the corneal texture. The acute period of the inflammation had passed, and the removal of the yellow deposit by ulceration was in progress when the patient came to the hospital. There was increased vascularity of the conjunctiva and sclerotica.

Hydrarg. c. Creta gr. iiss. ter quotidie.

27th.—The redness diminishing; the ulcer beginning to heal.

I saw the case again in August, when the central two-thirds of the cornea were converted into a perfectly opaque texture of chalky whiteness (leucoma), the circumference having its natural transparency. The iris adhered firmly to the leucomatous portion of the cornea, in its whole extent, the entire pupil being involved in the adhesion. Vision was lost, but might be restored more or less completely by the operation for artificial pupil.

Two other cases have lately occurred at the hospital, in which disease of the eye began just as the skin had become clear of the scabs from the variolous pustules. A white spot shewed itself on the cornea, surrounded by a halo of nebulous opacity. The external proper tunics were severely inflamed; there was redness of the sclerotica, severe pain, increased lacrymal discharge, and feverishness. By active antiphlogistic treatment the inflammatory disturbance was lessened; suppuration did not occur, and the opacity disappeared almost entirely during the employment of counter-irritation by friction of the tartar emetic ointment at the back of the neck. As the pustule occurred in both of these instances nearer to the circumference than to the centre of the cornea, the slight remaining opacity, which was only discoverable on close inspection, did not interfere with vision.

A child who had just gone through small-pox was lately brought to my house. The lids had been closed during the eruption; when they were opened, it was found that the child was blind. The corneal laminæ had been so seriously disorganized that staphyloma had occurred in both eyes.

Allowing for difference of structure, variola is the same in the eye as in the skin. In the latter, it is active inflammation proceeding to suppuration, and sometimes to sloughing. The cornea is the part that suffers in the eye; variolous pustules form on it, and proceed to suppuration, perhaps occasionally to sloughing. Violent external inflammation of the eye accompanies the corneal affection during its acute period; while the serious disorganization caused by the progress of disease in this important structure, is sometimes fatal, generally more or less injurious to vision. The variolous pustule shews itself at first as an opaque spot, with a more or less considerable dusky halo. Suppuration occurs, and the part turns yellow, the matter being deposited in the corneal texture, from which it is afterwards gradually removed by the process of ulceration. Thus the complaint passes through the successive stages of inflammation, with simple interstitial deposition, suppuration, ulceration, and finally cicatrization.

The disorder varies in its degree of violence and extent, and consequently in its ultimate effects. The cornea may give way, the humours escaping, and the emptied tunics subsequently collapsing. Entire or considerable destruction of the corneal laminæ, by suppuration or sloughing, terminates in flattening of the globe, or in staphyloma. Leucoma, general or partial, prolapsus iridis, adhesion of the iris to the cornea, are not unfrequent results. Lastly, there may be only slight opacity of the cornea; so inconsiderable as not to impair vision.

The most unfavourable results are observed in primary variolous ophthalmia, where the existence of the complaint is overlooked from the closed state of the lids, and the serious general disorder. The inflammation thus proceeds uncontrolled, and produces its worst effects. If, however, the change in the cornea consists simply in interstitial deposition, we may expect great improvement when the inflammation has come to an end, by the natural powers of restoration; and we should be therefore cautious not to pronounce an absolutely unfavourable opinion, even when appearances seem very discouraging. Louisa Mitchell's is a case in point: I certainly did not expect that

the cornea would recover its transparency in that instance.

The prospect is less unfavourable in secondary variolous ophthalmia, where we see the complaint from its commencement, and can employ suitable means to arrest its progress, without experiencing that embarrassment in the treatment of the organ which the state of general suffering may cause in primary cases. I think it is laid down by Beer, as a general rule in the treatment of specific or sympathetic ophthalmia, that we need not attempt to cure the local complaint, but must remedy the general disorder on which it depends. If this rule were strictly followed, many eyes would be lost from syphilitic, gonorrhœal, and variolous inflammation. There is no reasonable ground whatever for such a practical precept. Antiphlogistic treatment will control the inflammatory excitement, prevent the occurrence of suppuration, and confine the disorder within such limits, in respect to intensity and extent, as to preserve the organ from changes injurious to sight. I have always found this course of proceeding as useful in secondary variolous ophthalmia as in other inflammations of the eye; and I should resort to it, with full reliance on its efficacy, in the primary affection, which, however, I have hitherto had no opportunity of treating.

When I first saw Eliza Mitchell, I expected that the disorder of the eye would turn out well if the child's life should be prolonged, which then seemed very doubtful. The subsequent unfavourable progress of the local affection is only to be explained by the extremely enfeebled state of the constitution.

Gonorrhœal Ophthalmia and Rheumatism.

John Branch, 29 years of age, under the middle stature, of slight form, with light hair and pallid complexion, came into the hospital January 15, 1838. He had laboured for some time under gonorrhœa; the discharge continued, but in a diminished degree. He has had inflammation of the right eye for three days. There is considerable œdematous swelling of the palpebræ; the conjunctiva is red, swollen, and in the state of chemosis, so as to cover the greater part of the cornea. A profuse yellow discharge flows from the eye. He complained of considerable pain in the organ, with throbbing in the temples. The discharge, the chemosis, and the swelling of the lids, prevented us from ascertaining clearly the state of the cornea; it appears to be in a natural state. He was not aware that discharge from the urethra had been applied to the eye.

Cucurb. cruent. tempori dextro ad ℥xx.

℞ Hydrarg. Submur. gr. v.; Pulv. Jalap. gr. xv. M. ft. pulvis statim sumendus. Sumat. Antimon. Tart. gr. j. in solutione sexta quâque horâ. Fotus papaverum oculo.

16th.—The house-surgeon finding in the morning that the symptoms were not relieved, and that the pulse was full and strong, took twenty ounces of blood from the arm, after which the patient felt much better. Eighteen leeches were applied to the temple in the evening. The tartrate of antimony, which had not caused sickness, to be continued.

17th.—Incipient inflammation of the left eye; palpebræ swelled: slight chemosis, and discharge of a thin purulent fluid. The swelling of the right palpebræ a little abated, but there is still much vascular excitement, with profuse discharge of greenish colour. The cornea is clear. Twenty ounces of blood to be taken by cupping from the left temple. One drop of a solution of the argent. nitr. containing four grains in the ounce, to be dropped between the lids of each eye this night and in the morning.

18th.—The solution was used last night and this morning. The drops caused no pain at the time, but the eyes are obviously more inflamed and less easy; there is a feeling of roughness on the surface. The lids are more swollen; the state of the right cornea is uncertain, but there is considerable chemosis in both eyes. The use of the solution to be stopped.

Poppy fomentation to the eyes. Cupping to ℥xx. from the temples or nape. The Tartrate of Antimony to be discontinued, and a drachm of Magnes. Sulph. to be taken in Aq. Menthæ every six hours. A blister between the shoulders.

21st.—Twelve leeches to the left temple.

22d.—The eyes are decidedly improved. He has an attack of acute inflammation in the right knee, with effusion into the joint.

The Sulphate of Magnesia to be discontinued. Extracti Acet. Colchici, gr. iij. every night. Twelve leeches to the knee.

23d.—Acute inflammation of the synovial membrane of the left knee: both knees much swollen, from effusion into the joint, and acutely painful; swelling of the elbows, with severe pain; the eyes are much better. In the left, the chemosis is greatly diminished; the cornea clear, and vision perfect; the chemosis is lessened in the right eye, and ulceration of the cornea in its circumference is seen; it is superficial. The edges of the lids are red and tender, and stick together at night.

The dilute Citrine Ointment to be used to the lids at night; and the Solution of Argenti Nitr. to be again cautiously tried.

24th.—The use of the caustic solution last night and this morning has been again followed by more redness and swelling of the conjunctiva, increased pain and irritability of the organ. The knees are very painful, and the rest is much disturbed; indeed, he has slept but little since he came to the hospital.

Eighteen leeches to the knees; one-third of a grain of Muriate of Morphia every night.

25th.—Pain in the bowels, with considerable purging.

The Colchicum to be left off. Twenty minims of Tinct. Opii immediately, and to be repeated if necessary. It was given three times.

26th.—Rheumatic inflammation of all the principal joints, both in the upper and lower extremities, with great pain and total want of rest. The eyes still painful from the use of the caustic. Night perspirations.

Twenty leeches to the eyes.

31st.—The eyes considerably improved; diminution of redness and of discharge, which is rather watery than purulent. Rest still disturbed, and bowels relaxed. Pulse feeble, and considerable sense of weakness.

The nightly dose of Morphi Muriat. increased to half a grain. Quin. Disulph. gr. ij. every six hours.

Feb. 5th.—Meat diet.

9th.—The irritation of the alimentary canal has ceased; the night perspirations are diminished; the rest, appetite, and strength, are improved; the knees are still painful and swollen.

Blisters to the knees.

12th.—The eyes are irritable, and water on exposure to light.

The Citrine Ointment continued. The Vinum Opii to be dropped into each eye daily. The Quin. Disulph. continued.

16th.—The vinum opii seems to have been serviceable; the eyes are considerably improved; the left eye is nearly restored to its healthy state. In the right the cornea is ulcerated where it had been overlapped by the swollen conjunctiva. The central part of the cornea was hazy, and raised above the level of the circumference; the pupil was contracted, and it was conjectured that its margin adhered to the opaque portion of the cornea; the general symptoms much improved.

The Extract of Belladonna to be rubbed over the right eyebrow.

25th.—The eyes rather more irritable, with increase of watery discharge.

The Vin. Opii and Quin. Disulph. to be left off. The Tartar Emetic Ointment to be rubbed on the back of the neck.

He left the hospital on March 12th. The left eye was perfectly recovered. The only trace of disease in the right was a small opaque spot near the centre of the cornea, interfering but little with vision, which was nearly perfect. It was now found that the margin of the pupil did not adhere, as had been supposed. The affected joints were free from active disease, but remained weak.

This patient was unable to follow his employment for three months after leaving the hospital, in consequence of weakness, with occasional pain in the joints. Towards the middle of August he began to experience pain in the left eye, with dimness and indistinctness of vision. He was admitted into the hospital on August 27th, with inflammation of the external tunics of the left eye, and impaired vision. There was pain in the ball of the eye, especially severe at night.

Cupping on the left temple to 18 oz.; a dose of Calomel and Jalap. Two grs. of Calomel with one-third of a grain of Opium every six hours.

28th.—The pain diminished; the state of vision unaltered.

29th.—The bowels were so much disturbed after five pills had been taken, that it was necessary to discontinue them. The mouth becoming sore; vision improving. He left the hospital on September 3d. There remained slight redness of the sclerotica: the eye was irritable and watery; vision rather misty. The mercurial affection of the mouth continued. On the 6th the eye again became painful, although he had abstained from work, and lived temperately. On the night of the 9th he suffered severe pain, and was readmitted into the hospital on the 10th. He had now acute inflammation of the external tunics of the left eye; vision much impaired. He could make out capital letters, but with difficulty. Mouth a little sore.

Cupping to 16 ounces.

11th.—Two grains of Calomel with gr. $\frac{1}{4}$ of Opium every six hours.

13th.—Six pills have been taken: profuse salivation; sight much improved.

Pills discontinued.

14th.—A blister behind the left ear.

20th.—Salivation continues in a slight

degree; vision is restored, so that he can read the smallest print.

Sept. 24th.—Discharged with perfect sight. He had recovered his flesh and strength, and lost all traces of the rheumatic affection: indeed, he expressed himself as being in sounder health than he had experienced for a long time.

Gonorrhœa—Rheumatic Affection of various Joints—Inflammation of the Eyes.

The combination and repetition of gonorrhœa virulenta, rheumatism in several joints, and inflammation of the sclerotica and iris, are strikingly exemplified in the following case of a gentleman who has been for some time under my care. He is 36 years old, of middle stature, with brown hair, and dark blue irides. His father, who was of delicate frame, abstemious, and very gouty, died at the age of 70. His mother, who had serious affection of the heart, with palpitation, only reached the age of 30. My patient seems to have possessed a good constitution, though he had an attack of palpitation in the heart when young. He has indulged in all kinds of irregularity since the age of 14 or 15; he has been a great drinker, of wine especially, but he has also taken spirits and other fermented liquors freely. These potations have never affected the head; when disturbance has been excited, it has been in the stomach and alimentary canal. In the years 1821 and 1822 he had gonorrhœa four or five times, the affection being confined to the urethra. At the end of 1822, after being at a cockfight, supping and drinking hard, he returned to his apartments through a deep snow. He was seized the same night with violent pains in the right hip, followed by general rheumatic fever, which confined him to bed for six weeks. Soon after his recovery, which was slow, he contracted gonorrhœa again; and being at the sea side for the sake of his health, with his family, he took copaiva largely, hoping to arrest the disorder without its being known; at the same time he continued to drink freely; a violent attack of inflammation came on in the right knee, which was swelled, as he said, to the size of his head, red, and acutely painful, so that he could not bear the slightest motion. The joint remained swelled and contracted for a long time; he was confined to bed two months, and was unable to walk for six months. The part was twice leeched, and fomentations were employed. Before he had recovered, and while still feeble and suffering from night perspirations, he travelled in the winter a considerable distance by night, on the outside of the mail. A severe attack of rheumatic fever ensued, and confined him to the house five months. He recovered slowly at the sea side in 1827. In 1828 he had gonorrhœa, followed by general rheumatism, which confined him to bed six weeks. In the early part of 1829 the right eye was attacked with serious inflammation: it was as red as scarlet, with severe and distracting pain, and loss of sight. The lids were closed for six days; the apartment was kept dark for a fortnight, and the inflammation lasted six weeks. He was leeched and physicked on this occasion, and vision slowly returned. He continued well for the remainder of this year; and experienced a similar but slighter affection of the eye in March 1830, in the course of which year he married. In 1831, and eight months after marriage, the right eye was again inflamed: he used lotions, but no leeches. In August of the same year the eye was again inflamed: leeches were used, and the affection lasted a month. The eye was again inflamed for five or six weeks in the early part of 1832; and a slight attack took place in the beginning of 1833. In October, 1837, the eye was inflamed for three weeks, but the attack went off without leeching. Gonorrhœa was contracted in December. After it had lasted for some time, the liquor potassæ and warm baths were recommended. In a fortnight after beginning the latter, violent rheumatic fever came on; both knees were affected, the right more particularly; the feet, the shoulders, and wrists. Mercurial ointment was rubbed on the knees by the advice of a French practitioner, the patient being then in Paris; ptyalism was produced, and the knees became better. The gonorrhœa ceased under the use of capivi; the rheumatism lasted till July. Soon after, discharge from the urethra came on again, without any exposure to risk of infection. The patient was then living freely, and felt himself in a feverish state. He now took a long journey; one foot swelled, and became painful: he hastened back, and a violent attack of general rheumatism ensued, occupying both knees, feet, shoulders, and wrists. I saw this patient for the first time on the decline of the more violent symptoms. He was pale, emaciated, and feeble. The right knee was enormously swelled from effusion into the joint, the enlargement, with fluctuation, reaching at least four inches above the patella; the left knee was similarly affected, to less extent: both were a little heated, and slightly painful. There was some stiffness; but the joints moved more freely than could have been expected. There were slight remains of disorder in the feet and shoulders. Discharge from the urethra continued, with some uneasiness. I

had fourteen ounces of blood taken by cupping from the knees, gave the hydrarg. c. creta in small doses, with gentle aperients, and directed a simple nutritious diet, with moderate use of fermented liquors. For these means, which were beneficial, I substituted in a few days the hydriodate of potash in the compound decoction of sarsaparilla; four grains were taken in two ounces of the decoction three times a day. Rapid improvement ensued under this plan; and the patient became anxious to get rid of the urethral disease for various reasons, though I had recommended him to leave the discharge alone. He took capivi, and used an astringent injection, dispensing with my further attendance, being able to use the knees so freely, in spite of their swollen state, that no one would have suspected them to be diseased. I was sent for again in about ten days; the discharge from the urethra had yielded to the means employed, and in two days after its cessation the right eye became seriously inflamed. The right knee was at the same time more uneasy. I found inflammation of the sclerotica and iris; with increased redness of the former tunic and of the conjunctiva, discolouration of the iris, which had assumed a dull greenish hue, intolerance of light, lacrymation, constant severe pain, and loss of vision. I had blood taken by cupping from the right temple twice, had twenty leeches applied, and a blister to the nape. Poppy fomentation has been used to the eye. After free purging, the hydrarg. c. creta was given in small doses, three times daily, for a few days; and then the hydriodate of potash and sarsaparilla were resumed. It is now three weeks from the commencement of the attack: the pain is gone, the redness greatly diminished, and the sight much improved. The joints are completely free from uneasiness. There is a return of slight discharge from the urethra.

The patient subsequently informed me that in the history of his case, as detailed above, three or four gonorrhœas, and two attacks of syphilis, are omitted.

Gonorrhœa; rheumatism; acute inflammation of the testis, with ulceration of the tunics, and discharge through the aperture of the tubuli seminiferi.

Henry Clark, 27 years of age, of fairish complexion, and brown hair, of good constitution, was born in Northampton, and came to town at the age of ten. He has lived since that time in London and the neighbourhood, following the occupation of baker, and always enjoying good health. When engaged in work, he has been in the habit of drinking two or three pints of porter daily, and of taking spirits occasionally. Four years ago he contacted gonorrhœa, which lasted five or six months, without causing any mischief beyond the primary seat of disorder. In August 1837, he contracted gonorrhœa again; it was attended with profuse discharge, but not much scalding or pain. The limbs became affected in a few days: the feet and ankles were slightly, and the knees more considerably swelled, with severe pain. There was so much pain, with stiffness of the shoulders, that he could not put on his dress. For these complaints he was received into the hospital by Dr. Latham, and continued there nine weeks. He was relieved, and went out, but soon became again as bad as ever, and continued to receive medicines as an out-patient. He was again admitted, on August 30, 1838, by Mr. Skey, who was then in charge of my patients, and who treated the case for three weeks. His complaint was marked down at the time of admission as general rheumatism with gonorrhœa of twelve months' duration. The remedies first employed were vin. colchici, in the dose of forty minims, in mistura camphoræ, three times a day; extract of conium, and Dover's powder. On August 22, I found him with incipient inflammation of the right testicle; the discharge from the urethra had ceased, and the pains of the joints were lessened. The inflammation of the testicle proceeded, and became as violent as in any case of hernia humoralis I ever saw. The gland was greatly swelled, and most acutely painful; the scrotum bright red, tense, and shining. Five dozens of leeches were applied at different times; and the liquor antimon. tart. was twice given in half-ounce doses, repeated every half hour, till full vomiting was produced. These measures seemed to have no effect in abating the violence or checking the progress of the inflammation. The integuments, which adhered to the swelling over its whole anterior and lateral aspects, became raised into a soft, smooth, and shining elevation, about the middle of the scrotum, which gradually gave way by ulceration. A little thin fluid escaped at the opening; but there was no discharge of matter. The ulceration extended to the size of a shilling, and in a few days (October 7) a kind of slough appeared in the centre, in the shape of a yellowish grey soft mass, somewhat like a portion of wetted tow. This became larger and more prominent. Suspecting it to be the glandular substance of the testis pushing through an ulceration of the tunics, I took up a small portion with the forceps, when, on drawing it out, the tubuli seminiferi were rendered immediately obvious. The ulceration of the scrotum enlarged, and a fresh protrusion appeared, similar in character

to the former, and near it. The two soon spread into one, which formed an inorganic mass nearly as large as the end of the thumb, surrounded by a margin of healthy granulation.

Towards the end of October the projecting mass had become loosened at its basis, and I detached it with little force on the 29th. It was put in water, when the tubuli seminiferi soon became separated and unravelled, shewing that the projection had consisted entirely of the glandular substance contained in the tunica albuginea testis. The opening in the scrotum soon closed. The gonorrhœal discharge reappeared in a slight degree on October 12th; and the pain and stiffness of the joints returned.

On November 5th I prescribed four grains of the potassæ hydriod. in two ounces of decoct. sarsap. co. three times a day, and the warm bath; he had taken meat diet since October 8th. The limbs now recovered steadily and rapidly, and he left the hospital by his own desire at the end of November. I have seen him in the present month (December) in excellent health; a little stiffness of the feet is the only circumstance reminding him of his rheumatic ailments. The urethral discharge has ceased. The right side of the scrotum contains merely the spermatic cord and epididymis. He has not resumed his occupation, not having succeeded in finding employment.

Gonorrhœal affection of the eye appears in two forms; namely, inflammation of the conjunctiva, with puriform discharge; and inflammation of the external proper tunics, together with the iris.

The former affection appears in various degrees, from a mild and easily manageable disease to the most acute and rapidly destructive inflammation that can affect the eye. The case of Branch exemplifies the active modification, but not its most acute form. It shews that strong astringents, which are useful in the milder cases, are sometimes quite inapplicable in the more dangerous affection, even after considerable depletion. This case would no doubt have ended more quickly, and the patient would have been less weakened, had the plan of incisions through the chemosed conjunctiva, recommended in the valuable paper of Mr. Tyrrell, published in the Medico-Chirurgical Transactions, vol. xxi., been adopted. I have resorted to this plan lately, with excellent effect, in a private case, when the complaint came on in a week after the commencement of gonorrhœa, and seemed to have been caused by some of the patient's urine spirting into his eye. I did not see the case till the third day, when the incisions were immediately practised. A deep ulcer, of semicircular figure, formed in the upper part of the cornea, near its edge; and the iris is now adherent to the cornea at that part, but vision is perfect.

In gonorrhœal inflammation of the external tunics and iris, the colour of the latter is altered; there is more or less pain, with imperfection and sometimes temporary loss of sight. These symptoms, however alarming, are not in general attended with lasting mischief to the organ, which may go through several attacks, as in the case of the gentleman above related, without permanent injury to its structure or functions.

The affection of the joints was, I believe, first noticed by Swediaur, who has, in his treatise on Venereal Diseases, a short chapter*, entitled, "De la tumeur du genou (gononcus) pendant ou à la suite de la blennorrhagie syphilitique." He says that he has seen many instances of it; that it sometimes affects both knees and the heels; that the affection is seated in the bursæ mucosæ above the knee; and he proposes the inquiry, whether the gonorrhœa in such cases is not rather arthritic than syphilitic.

Sir Benjamin Brodie has related cases illustrating the affection, in his treatise on Diseases of the Joints.

Although the disease is painful and sometimes obstinate, like ordinary chronic rheumatism, it comes to a conclusion sooner or later, and the patient recovers perfect use of the affected joints. I have met with one exception to this observation, in almost the only case which I have seen in the female. It was that of a robust Irish girl, about 20, who came into St. Bartholomew's with a severe clap, and inflammation with swelling of the knee. The joint became and continued highly inflamed, greatly swollen, most acutely painful, with the leg drawn up so as to bend the knee beyond a right angle, in spite of the most active treatment, embracing every measure that could afford any chance of relief. After some months the inflammation and swelling abated under the use of blisters, which were more serviceable than other means; the joint returned to its natural size, but was completely anchylosed in the bent position. As the knee was recovering the elbow became affected: here the disease was less in violence and duration, but the joint remained with considerable limitation of motion.

In its active period gonorrhœal rheumatism requires the same treatment as other

* Traité des Mal. Syphilitiques, tom. ii. ch. vii.; ed. 7me.

acute affections of joints; and it is subsequently benefited by blistering and other modes of counter-irritation. The internal remedies which I have found most useful after the active symptoms have been subdued are the hydriodate of potash, and the compound decoction of sarsaparilla, given in combination. I have usually administered four or five grains of the former in two ounces of the latter three times a day. I lately saw this plan very decidedly advantageous in a case where the feet, knees, and joints of the upper extremities, had been seriously affected, the feet having been swollen and red, and the other joints enlarged and very painful. Mercury had been tried without benefit to the local affections, and with injury to the general health. The hydriodate and sarsaparilla produced an immediate beneficial change; improvement went on steadily, the muriate of morphine being sometimes taken at night; and recovery was effected by continuing the remedies about six weeks, some weakness of the affected joints, with occasional pain, still remaining, although the patient was able to resume his ordinary occupations.

SURGICAL CASES.

To the Editor of the Medical Gazette.

Sir,

Your journal is extensively useful as a record of cases which in their nature or treatment present points of general interest. The Marylebone Infirmary affords a fair share of such cases; and with your permission, I propose, from time to time, to occupy a small space in the Gazette with an account of those which may come under my care: the following cases I send you as a first instalment.

Your obedient servant,

Benjamin Phillips, F.R.S.
Surgeon to the St. Marylebone Infirmary, and Lecturer on Surgery at the Westminster Hospital School of Medicine.

17, Wimpole Street, Dec. 31, 1838.

Erectile Tumor of the Anus.

Whether erectile tissue can be accidentally developed, has been long a question about which much doubt has been expressed. Whether such tissue is ever developed as a tumor of the inferior portion of the rectum or the anus, if we look at even recent authorities on the subject, would seem to be more than doubtful. Under these circumstances it is desirable that any evidence capable of removing such doubts should be recorded.

George Gurd, aged 18, was admitted into the St. Marylebone Infirmary, suffering from disease of the rectum. He was an in-door servant, and had for some time lived in a nobleman's service.

He states that he was accustomed to eat animal food four times daily; that his health has been uniformly good; that he has never taken medicine; that his bowels have always been regular, usually affording one stool daily; and that he has never had any irritation or inconvenience, until the occurrence of his present disease.

Four months ago his attention was called to the existence of a tumor of the anus, developed without any very manifest cause: from time to time, and from slight causes, such as the shirt coming suddenly in contact with it, hæmorrhage to an alarming extent had occurred: it also happened three times from straining at stool.

Medical aid had never been sought until he presented himself at the infirmary, but he had made several unsuccessful attempts to reduce it, believing it to be a protrusion of the gut.

He was much debilitated by the hæmorrhage, and presented that pasty complexion ordinarily seen under such circumstances. The tumor was of the size of a large French walnut, and under the influence of any slight irritation applied to the neighbouring parts became tense and turgid: usually its colour was livid, its surface irregular, and its appearance fungous. It was attached to five-sixths of the margin of the anus, and constituted a sort of appendix to the rectum, for the evacuations were passed through a canal in the centre of the tumor. The patient was greatly annoyed by ascarides, which crawled about the fissures which the structure presented, and occasioned intense irritation.

Seeing the extreme tendency to hæmorrhage, and the erectile character of this tumor, I was indisposed to attempt excision, and determined to employ the ligature.

Previous to the operation the bowels were emptied by means of castor oil and the common enema, and immediately before its commencement 25 drops of Battley's solution, with ten drams of catechu mixture, were exhibited.

A needle armed with a double ligature

was passed through the base of the tumor; each ligature to include one-half.

This was done, but the tightening of the ligatures produced excessive pain, which did not, however, continue long.

The strangulation of the tumor appeared to be complete, and up to the ninth day portions were detached. I then found a smaller central portion retained its vitality; the ligature was tightened, and in three days more the whole sloughed off, leaving beneath a healthy mucous structure.

Now, by whatever test we examine this tumor—whether by its tendency to bleed profusely from slight injuries—its disposition to enter into a state of erection or orgasm, under the influence of the irritation occasioned by the ascarides, or other similar causes—its situation, where varicose veins are rarely seen—or its general appearance—I think we are bound to admit this to have been an erectile tumor of the margin of the anus, and apparently not a congenital product.

Amaurosis.

Ellen Newman, aged 40, a milkwoman, not accustomed, however, to carry milk on the head, had been many weeks under treatment for amaurosis, before she came under my care. She had been bled locally, by means of leeches applied to the temples, several times. The mouth had been severely affected by mercury twice.

At the time I first saw her, she was exsanguined from the effect of mercury, leeches, and diet. There was great vascular injection of the conjunctivæ, deep-seated pain of the eye, with a change of colour of the retina, which produced an appearance of opacity of the lens, and although she was able to distinguish light from darkness, she could not distinguish the form of any object placed before the eyes.

The vascular action and deep-seated pain were dissipated by the application of leeches and blisters behind the ears; but the sight was not improved. Believing that her general debility might account for this, her diet was improved, and quinine exhibited, but without any improvement in vision. The iodide of iron was also given, but without any material amendment. Vascular action and pain were again developed, were slightly relieved by leeching, and a seton, which was inserted in the nape of the neck.

There was reason to suspect that syphilis might have had something to do with the development of the disease, but as mercurial action had been already twice excited, I had some doubts of the prudence of submitting her to it again. A guarded introduction of mercury was, however, determined on, and Hyd. c. cretâ, gr. v. given three times daily. In ninedays slight mercurial action was manifested, and the pain and vascularity were removed. The action was maintained for a fortnight, and vision was considerably improved. The Hyd. c. cretâ was now abandoned. In ten days some pain and vascularity were complained of, and vision was again obscured. The mercurial was again exhibited for a month, during three weeks of which the mouth was sore: all the symptoms underwent the same decided improvement as before. It was again intermitted, and again the symptoms were reproduced.

Six months of this treatment was persisted in before the amendment was maintained; and on the last occasion the action was kept up for eleven weeks. She was discharged cured, and up to the present time, a space of five months, no further inconvenience has been experienced.

This case is interesting, as shewing that salivation rapidly produced may fail to relieve a state of the retina which may yet yield to a sustained but mild mercurial action. And it also shews, that when mercury is beneficial, its efficacy is not always perceived as soon as the mouth is sore.

Popliteal Aneurism.

George Woodward, aged 46, a confirmed drunkard, was admitted under my care with a tumor in the ham, and great œdema of the foot and leg. Twenty days before, in going to Billingsgate, he had a fall, in consequence of slipping on orange-peel, in Thames Street.

He felt his knee a little strained, and in six days a numbness of the foot was experienced, and a tumor in the ham was perceived: to this tumor liniments, lotions, and fomentations, were applied without relief. The tumor increased, the numbness was more constant, and the foot became œdematous.

When I examined him, I found a pulsating tumor of considerable size occupying the left popliteal region;

the girth of the limb at this point was 2¾ inches more than that of the corresponding region of the other leg; the numbness of the limb was constant and distressing to him, the œdema of the leg was excessive; the skin tense, red, and glistening.

His manner was hurried and excited; his tongue coated with a white fur; pulse 88, irritable; heart probably somewhat hypertrophied.

Here was a case in which delay was unjustifiable; at the same time the state of the limb, the improbability of the circulation being maintained, and the probability of a generally diseased arterial system, rendered a successful result very doubtful. On the following morning a ligature was placed around the femoral artery above the sartorius. The sheath was only opened sufficiently to admit the aneurismal needle, and care was taken to exclude the nervous filament usually found in front of the sheath. Before the man was removed from the table, the integument over the tumor was much relaxed.

A woollen stocking was placed upon the leg, the temperature of which was still maintained; he was taken to bed, and a flannel bag, containing warm salt, was kept around the leg from the ankle to the knee, and a warm bottle to the foot.

In the evening when I saw him the temperature of the limb was still sustained, the integument over the tumor more relaxed, that of the leg less glistening, the numbness abated. Pulse 86; no disposition to sleep. Liq. Opii Sedat. ♏ xx.

1st day.—Night quiet, but without sleep; tongue cleaner; pulse 80, less irritable and more power; has had a moderate stool during night; has taken a pint of beef tea, and wishes for more; to have a pint more during the day, and two eggs; temperature still maintained; numbness and œdema less, integuments more relaxed.

The cutaneous vessels becoming engorged, and at several points there is an appearance of congestion; gentle friction to be employed in a direction towards the heart, for the purpose of giving them mechanical assistance.

Evening.—Quiet and comfortable; tongue good; pulse more power, 84; appetite good; no tendency to sleep. Liq. Opii Sedat. ♏ xxv. The position of the leg was changed; the foot was so raised as to procure the assistance of gravitation in sustaining the circulation.

2d day.—The house-surgeon thought the pulse disposed to flag, and ordered a tablespoonful of wine to be taken every hour. At present, pulse 86, with moderate power; tongue clean; appetite keen; leg much reduced, no œdema; heat natural; superficial vessels seem to be performing their functions well; to continue wine, to have fish and eggs; as well as beef tea.

Evening.—Condition as in the morning; bowels evacuated; no disposition to sleep. Liq. Opii Sedat. ♏ xl.

3d day.—Quiet night; scarcely any sleep; general condition improved; less numbness; integuments gradually contracting and supporting the vessels. Continue wine; beef tea; fish and eggs.

Evening.—Condition satisfactory; except the want of sleep. Liq. Opii Sedat. ♏ lx.

4th day.—Very little sleep; bowels not relieved; tongue and appetite almost natural. Ol. Ricini ʒij. Wound partially dressed, looking very well.

Evening.—Little inclination to sleep; in other respects comfortable. Morphiæ Mur. gr. iss.

5th day.—Little sleep; state otherwise satisfactory; to have mutton, and to continue beef tea, eggs, and wine.

Feeling apprehensive that this sleeplessness might be the prelude to delirium tremens, or some equally unfortunate complication, I this day ordered for him two pints of his accustomed stimulus, porter, one to be taken with his dinner, and the other in the evening with a grain and a half of muriate of morphia.

6th day.—Slept much better; improved in all respects; wound looking well; limb becoming natural; diet as yesterday.

Evening.—Bowels moved; muriate of morphia and porter, as last night.

7th day.—Has had a very good night; all going on well: food as yesterday.

From this day the tumor diminished, so that on the sixteenth day the girth of the limb only exceeded that of the other by one inch, but although the artery did not appear diseased, the ligature did not escape before the nineteenth day.

He was not discharged for several weeks in consequence of an increase of numbness, and a stiffness about the knee; these symptoms, however, gradually subsided.

There are two points of importance presented by this case; the first is an illustration of how much may be expected under very adverse circumstances from the mechanical assistance which may be given to the small vessels, by which, in such a case, the circulation is carried on. At one point, when the same appearance of inability was manifested in these vessels, to sustain the increased duty imposed upon them, the congestion ended in vesication, and there can, I apprehend, be no doubt that the same result, or perhaps gangrene, would have supervened at others, if the precautions I have alluded to had not been adopted.

The second point is strongly illustrative of the prudence, where stimuli are necessary, of exhibiting those to which the system has been accustomed: sleep could not be obtained by means of opium, nor even when wine was associated with it; but no sooner was the porter given, with the opiate, than the desired effect was immediately obtained.

FRACTURE OF THE PELVIS.

To the Editor of the Medical Gazette.

Sir,

As the following case is one which may be interesting to your readers, inasmuch as it involves a question of some importance in a medico-legal point of view, perhaps you will be kind enough to insert it in an early number of your valuable periodical, and oblige,

Yours respectfully,

William Hullam,
M.R.C.S. Lond.

Newcastle-under-Lyne,
Dec. 28, 1838.

On the 3d of November last I assisted Mr. Arth, surgeon, of this town, at the post-mortem examination of George Tinsley, a lad about 14 years of age, who had been under his (Mr. A.'s) care a few days previously, in consequence of an alleged injury of the hip, which it was stated the boy had received in romping with two others, at Messrs. Thompson's cotton factory near this place. From the evidence adduced at a coroner's inquest, (which was rendered necessary in consequence of the sensation created by the boy having died from the injuries received), it appeared that on Tuesday, the 23d of October last, the boy was playing or romping with two others, about his own age, one of whom, as they were lying together on the floor of the room in which they worked, fell with his knees upon him. The deceased did not complain at the time of being hurt, but continued to walk to the factory—a distance of a mile—daily, and to do his work there until the following Saturday morning, when on getting up to go to his occupation at the usual hour, he complained of being lame, and limped in his walking. On his arrival at the factory, he was so ill that he could not do his work, and being incapable of walking home, he was conveyed thither in a cart, and put to bed. On the Monday following Mr. Arth's assistant first saw the patient, who then complained of great pain in the hip and lower part of the abdomen. There were slight external marks of violence about the hip, but no fracture to be detected. The patient was bled, took aperients, had leeches applied and fomentations to the groin and hip, where he complained of most pain. He gradually got worse, however, and died on the Thursday night following.

At the post-mortem examination we found an extensive fracture of the left os innominatum. A fissure extended backward from the acetabulum through the ilium to the sacrum; and another from the horizontal ramus of the pubes downwards, and backwards into the acetabulum. The anterior inferior spinus process of the ilium was partially separated by fracture (but not detached) from that bone. A large collection of brownish fœtid pus lay in the iliac fossa underneath the iliacus muscle, and the bone underneath was denuded of its periosteum. A quantity of the same unhealthy purulent matter was infiltrated among the tissues about the hip-joint, and downwards, in the direction of the femoral vessels, so that on making pressure on the groin of the affected side, it escaped into the pelvic cavity. The cartilage lining the acetabulum was absorbed, and the surface of the bones constituting the cavity was carious. On the articulating surface of the head of the femur the cartilage was beginning to be affected with ulceration. The ligaments of the joint were entire.

Now it is my own opinion, as well as Mr. Arth's, and expressed in his evidence before the jury at the inquest,

that the boy could not possibly have walked backwards and forwards to the factory, or have gone on with his employment, which was *not sedentary*, from the Tuesday until the Saturday following, with the extensive injury we found at the post-mortem examination. There was, however, no other evidence to shew that the boy met with the accident subsequently to the Tuesday on which he had been romping with his work-mates. Hence a question arose at the inquest, whether it was possible for the boy to have walked *after* the accident at all? The probability is, that with a less extensive injury, the boy *might have done so;* for we know that in some cases of partial fracture of the bones of the leg or of the femur, and also in cases of entire fracture, where the violence has been applied in such a direction as to cause the splintered ends of the bones to to be wedged or dovetailed together, patients have been able to walk, and the fracture has even remained undetached for some days after the accident, when re-separation of the fragments has taken place, in consequence of the inflammatory process set up by nature for the reparation of the injury. The following is a case in point, and occurred during my attendance at the North London Hospital:—

Richard Moulden, æt. 38, was admitted into the North London Hospital on the 2d of January, 1836, in consequence of a fracture of the left thigh bone, (evidently oblique,) about four inches above the patella. The accident occurred while he was wheeling a barrow filled with earth up a plank in the dark, the barrow and its contents falling back on his thigh, in consequence of its trundles having got off the plank. The accident happened *ten days* ago, and immediately after it occurred the man walked home—a distance of two miles. He has been attended since its occurrence by a surgeon, who has not been able to detect fracture until yesterday. The night before last, he says, while turning in bed, he heard the bone grate, and on awaking in the morning perceived the thigh deformed, from the projection of the upper fragment. The fracture on his admission into the hospital was put up with the long splint in the extended position, and the man was dischargd with a good straight limb on the 12th of February.

UREA IN THE BLOOD IN CHOLERA.

To the Editor of the Medical Gazette.

Sir,

In a recent number of Poggendorf's Annals, it is stated that Marchand detected slight indications of the presence of *urea* in the blood of a patient who was affected with cholera, and who had passed no urine for three days. Those indications, however, were indistinct, and the evidence does not seem conclusive.

The following case presented the general characters of Asiatic cholera. It is interesting, chiefly from the circumstance that urea was distinctly detected in the blood. I was asked to visit the patient by Dr. George King, who was the ordinary medical attendant, and who has furnished me with the account of the earlier symptoms:—

On the 29th of last September, Miss M., aged 42, was attacked with violent vomiting and purging of a fluid resembling rice water. The surface became cold; the arms and legs assumed a bluish colour, and became affected with severe cramps; the features were contracted; the voice altered and feeble; the pulse about 90, sometimes scarcely perceptible. There was great thirst, with restlessness, and oppression at the epigastrium, and the urinary secretion seemed suspended.

By the application of external heat, with repeated doses of calomel and opium, the purging was arrested, and the heat partially restored. The oppression at stomach and vomiting continued, the fluid ejected being now greenish. The epigastrium was leeched and blistered, with some relief to the uneasy feelings, but without any marked effect on the vomiting, which recurred constantly at intervals of less than an hour. Various other remedies were tried ineffectually. The patient continued gradually to sink. The emaciation increased rapidly.

On the 7th of October the cornea of both eyes became opaque and sloughy. On the 8th and 9th she was in a state of stupor. On the 10th she expired.

On examination after death, the inner surface of the intestines was found to be much congested, and at the lower extremities of the ilium there was a

considerable ulcer, apparently of recent origin. Dr. Lawrie saw the patient the day before her death, was present at the inspection, and considered the case in every respect similar to those cases of Asiatic cholera which proved fatal after a temporary recovery from collapse.

The green matter contained in the fluid latterly thrown up from the stomach had the properties of the colouring matter of bile. During the whole progress of the disease the urinary secretion was nearly arrested, the whole quantity secreted during eleven days being only 36 ounces, including a small quantity found in the bladder after death. This gives an average of little more than three ounces in twenty-four hours. The urine coagulated by heat. After separating the albuminous matter, urea was detected in it by nitric acid, but the proportion was much smaller than in healthy urine. From this circumstance I thought it probable that urea had accumulated in the blood.

In order to decide this point, four ounce measures of blood were taken from the larger vessels and heart; it was partly fluid, partly in small coagula. As the serum could not be separated in sufficient quantity for examination, the whole was mixed with 12 ounce measures of alcohol, well stirred for some minutes, and then allowed to digest for a day at a moderate temperature. The albuminous and colouring matter was precipitated in reddish brown flakes. The alcoholic liquor partly floated on the top. The mixture being thrown on a filter of fine cotton cloth, ten ounce measures of fluid passed through, by the aid of gentle compression, the rest being retained by the spongy precipitate. This filtered fluid was transparent, and almost colourless. It was evaporated at a temperature not exceeding 160° Fah. During this process it became turbid, and deposited a considerable quantity of fluid oily matter, which was separated. When reduced to the consistence of a thin syrup it had a decidedly urinous smell; and a minute portion being tested, yielded distinct pearly scales with nitric acid and with oxalic acid. The syrupy fluid was still turbid, apparently from the presence of oily matter, probably phosphoric fat. In order to separate this matter the extract was diluted with a little water, to render it perfectly fluid. It was then agitated with a small portion of æther, which dissolved the oily matter, and left the watery fluid colourless and almost transparent. This fluid was again evaporated, at a very gentle heat, to the consistence of a thin syrup; and nitric acid being added, there was a slight effervescence, followed by a deposition of pearly crystalline scales. These, being compressed between folds of filtering paper and dried, weighed $5\frac{1}{10}$ grains. They had all the characters of the nitrate of urea, and, according to Prout's analysis, may be considered equivalent to $2\frac{7}{10}$ grains of urea.

This quantity, then, was actually separated from four ounce measures of blood; but as the whole mixture of blood and alcohol measured 16 ounces, and the filtered liquor measured only 10 ounces, it is evident that the filtered liquor contained only $\frac{10}{16}$th of the urea present in the blood. From these data it will follow that the whole urea actually present in the blood amounted to $2\frac{7}{10} \times \frac{16}{10} = 4\frac{3}{10}$ grains, or rather more than one grain to each ounce measure of blood, without making any allowance for the small quantity remaining in the fluid, to which the nitric acid was added.

I believe this to be the first case in which the presence of urea has been distinctly ascertained in human blood, and its quantity determined.

I am, sir,
Your obedient servant,
HARRY RAINY, M.D.

University of Glasgow,
26th Dec. 1838.

AMPUTATION OF THE LIMBS IN UTERO.

To the Editor of the Medical Gazette.

SIR,

IN the number of your journal of the 15th instant, there is a paper from Dr. John Rose Cormack, Edinburgh, on Spontaneous Amputation of the Limbs of the Fœtus in Utero. After adducing several instances to shew the property which organized lymph possesses of taking on a contractile action, he explains by that property the amputation of the limbs of the fœtus *in utero;* the bands of lymph which are usually found around such limbs, he observes, effecting "an amputation of the part by the same process of disjunctive atrophy

which the surgeon accomplishes by means of the ligature." Dr. Cormack appropriates to himself the merit of such explanation.

I quite agree with Dr. Cormack that such is, probably, the correct explanation of that singular phenomenon, but I cannot accord to him the merit of priority in the explanation.

In a paper of mine, on Cirrhosis of the Lung, published in the Dublin Journal of Medical Science, I adduced several instances of this property of contractile action in lymph, and among those, as one of the most curious, I particularly noticed the spontaneous amputation of the limbs of the fœtus *in utero*, concluding my observations by expressing my belief, that in those cases the string of lymph around the limb "has taken on this slow contractile action, and thus it has at last produced removal of the soft limb of the fœtus, by its gradual tightening, just as the surgeon, by the gradual tightening of a ligature, effects the removal of a polypus." My paper is published in the Dublin Journal of Medical Science, May 1838. I need not say I feel quite convinced that Dr. Cormack was not aware of my previous observations.—I remain, sir,

Yours, &c.

D. J. Corrigan.

Dublin, 4, Merrion Square, West,
December 24, 1838.

IRRITABLE UTERUS.

To the Editor of the Medical Gazette.

Sir,

I forward for publication in your valuable journal the following case, which appears to me to be an important one, inasmuch as it shows that in the female sex the uterus is sometimes the source of those painful, local, nervous affections that simulate structural diseases in different parts of the body; or at least that remedies which had the effect of restoring that organ to a healthy state, were, in one severe case of the above description, the means by which a cure was accomplished, after every other plan of treatment had been tried in vain.—I am, sir,

Your most obedient servant,

John Brown, C.M.

Her Majesty's Victualling Yard,
Deptford, Dec. 24, 1838.

A young lady, who had suffered for a great length of time from pain in her back and partial paralysis of the lower extremities, was brought to London, in the summer of 1837, for the benefit of medical advice. While she was in the country, various plans of treatment were tried for her relief, but without the least benefit; and at the time I first saw her, which was immediately on her arrival here, and about two years and a half after the commencement of her illness, she said that her complaint began with a throbbing in her left foot, which gradually extended up the leg as far as the back, and was followed by severe pain in her stomach and right side, which continued for several hours, and then went off, leaving her in a very languid state; that paroxysms of this kind succeeded each other, at short and irregular intervals, for the space of eighteen months; that she had often, during the above period, hysterical fits of the usual description; that there was also great uneasiness, with a sensation of throbbing, in her back; that she often suffered much from pain in the abdomen, particularly around the umbilicus; that a great many remedies had been tried for her relief, but without any good effect;—on the contrary, that the pain in her back at length became so constant and severe as to lead her medical attendants to conclude that she was labouring under a disease of the spine, and that she was accordingly cupped, blistered, and kept in the horizontal position for a great many months, but without any benefit whatever.

At the time this patient came to town she could not walk, nor even stand, in consequence of the pain in her back and weakness of her limbs. I therefore carefully examined the spine, but could perceive no mark of structural disease there; indeed the poor girl complained just as much when the skin was merely touched as when forcible pressure was made upon the vertebræ. Hysterical fits at that time, she said, came on twice or thrice every day. She also stated, that when she attempted to sit up, she felt an unpleasant weight in the lower part of her belly, with a sensation of bearing down, and that she had always pain and difficulty in passing the fæces and urine. On examination *per vaginam*, which I considered to be necessary, in order to enable me to ascertain the real nature of the case, I found that

the uterus was very low down; and upon mentioning this circumstance to the patient, she admitted that that organ had several times partially protruded beyond the external parts. It was also in a highly irritable state; indeed the mere touch of the finger gave great uneasiness, and brought on one of the most violent paroxysms of hysteria I ever witnessed. There was occasionally, too, a profuse leucorrhœal discharge; but as the displacement appeared to me to be the point which required to be first attended to, in order to remedy that, I put a piece of sponge into the vagina, but so great was the irritability of the parts that its presence there could not be borne, and I was consequently obliged instantly to remove it. Under these circumstances, conceiving that the affection of the back and paralysis of the limbs were, in some way or other, connected with the irritable state of the womb—a state which the patient said had existed from the commencement of her illness—I directed strong anodyne injections to be frequently thrown into the vagina, which, in time, produced an excellent effect. Astringent injections were next employed with advantage; and, at last, a solution of the nitrate of silver was in this way used, which, by degrees, diminished both the leucorrhœal discharge and the irritability of the uterus, and in the end entirely removed them. As soon as this change in the state of the parts was effected, the usual treatment for the prolapsus was had recourse to, and the girl then began rapidly to improve.

But during the time that this local treatment was being followed, the constitution was not neglected. The physical powers of the system in this case were very low. The patient had a weak pulse; her appetite was small; her muscles soft, flabby, and relaxed. She suffered much from coldness of her hands and feet; and, as hysterical paroxysms at the commencement of the local treatment were very frequent, antispasmodic medicines were prescribed, particularly the tincture of assafœtida, to which, however, she at first strongly objected, on account of the nauseousness of its fœtor; but, after having taken it for a short time, she either acquired a taste for it or experienced so much relief from its use, that always, upon the least symptom of the approach of a paroxysm, she flew to the loathsome draught with avidity, and drank it off without any apparent reluctance. Tonics, too, were from the first prescribed. The compound infusion of gentian, the disulphate of quinine, the sulphate of copper, and the tincture of muriate of iron, were all, by turns, taken in proper doses, with benefit. The cold shower-bath was also had recourse to; and, although the patient's constitution was certainly very weak, the shock was followed by no unpleasant effects; on the contrary, she always experienced, after using the bath, a comfortable glow of heat over her whole body, with a considerable increase both of bodily and mental energy.

Under the above treatment the patient gradually recovered; indeed, as soon as the irritable state of the womb was removed, she began to walk about, and in the course of a few months she could accomplish a distance of three or four miles with but very little fatigue. She, however, remained about a year under my care, and in July last returned to her parents, who reside at Plymouth; from whence she now writes to me, and informs me that her health is good, and that, notwithstanding the season of the year, she frequently takes a cold salt-water bath with decided benefit.

The history of the above case leads, I think, to the conclusion that the irritable state of the uterus was either the sole cause of the painful affection of the back, of the paralysis of the limbs, and of the other symptoms from which the patient suffered so long and so severely, or, at least, that it was in some way or other intimately connected with them. What share the prolapsus had in producing those distressing effects I do not know; but it was not until after the irritability was diminished, and the displacement of the organ remedied, by mechanical means, that the girl began decidedly to amend, which shews how necessary it sometimes is, in hysterical affections, carefully to examine the uterus—a practice which I fear is too seldom followed; indeed, in the present instance, if the girl had not complained much of the weight in the lower part of the belly, the bearing down, and the difficulty of passing the urine and fæces, I should probably not have thought of making an examination *per vaginam*, but have treated the case in the usual way, by

tonics, antispasmodics, &c., the consequence of which would have been, that the patient might have remained for a long time just as she was, or, perhaps, after returning to the country, she might again, upon the supposition of disease of the spine, have been tortured with blisters, and made to suffer all the miseries of another long confinement in the horizontal position.

But admitting that the cure, in the above case, was effected by the removal of the irritability of the womb, what was the proximate cause of that irritability? I do not know. There was no inflammation—no disorganization. The uterus, notwithstanding the length of time that had elapsed, remained unchanged in its structure. It was merely in an exceedingly irritable state—a state which neither the leucorrhœal discharge, nor the displacement that existed, can, I think, account for; indeed, so very exquisite was the morbid sensibility of that organ, let its proximate cause have been what it might, that, at the first examination, the mere contact of the finger caused not only great local pain, but also produced a powerful effect upon the whole of the nervous system, which surely, I think, tends to shew that the distressing symptoms in this case were all closely connected with the irritable state of the womb.

But, instead of the irritability of that organ having been the *cause* of the painful affection of the back, and of the other well-marked hysterical symptoms, it may itself, perhaps, have been only an hysterical *symptom* also, and the whole may have arisen from a peculiar state of the nervous system in general—a state which, though often spoken of, is far from being well understood; indeed, one of the most distinguished and talented surgeons of the present day, Sir B. Brodie, in his excellent lectures upon Local Hysterical Affections, gives it as his opinion that those painful complaints have no connexion whatever with the uterus, but are, in fact, always seated in the nervous system; and, as one proof, among others, of the correctness of this view, he states that males are subject to them as well as females; but I apprehend that well-marked cases of purely hysterical complaints which so closely resemble structural disease of the spine as the one I have just narrated, are not very common in the male sex, whilst among females they certainly may be met with every day. But if it can be shewn that males are sometimes, although it may be but very rarely, the subjects of those maladies, it clearly follows, notwithstanding the term hysteria, that we must look somewhere else than to the uterus for an explanation of the very extraordinary symptoms that sometimes exhibit themselves in diseases of the description now under consideration; and if we turn our attention to the nervous system, and, by dissection, endeavour to obtain a knowledge of their cause, our investigations there only shew that the pathology of hysteria is involved in impenetrable obscurity. Still, although dissection, "the great revealer of nature's secrets," throws not one ray of light upon the gloom that surrounds us in our inquiries upon this subject, it must be admitted, that the nature of the symptoms themselves leads us to look to the nervous system as the source from which they spring; but, whether the peculiar state of that system which gives rise to hysteria in all of its strange and varied forms be always, as some seem to think, entirely unconnected with the womb, or whether it sometimes depends solely upon sympathy with that organ, I will not venture to say; but certain it is, that in one instance, where the symptoms were very severe, and of long standing, the restoration of the uterus to a healthy state was followed by a speedy and perfect cure—a circumstance the knowledge of which ought at least to induce practitioners, in all cases of local hysterical affections, carefully to inquire into the state of the womb, with the view of remedying functional derangement, irritability, displacement, or whatever else may be found to be amiss; and, although it is certain that nervous diseases of the description now under consideration may sometimes be met with among females where no morbid affections of the womb of any kind can be discovered, and even occasionally, as Sir B. Brodie observes, where they cannot possibly exist, as in the male sex, yet, looking at the above case, and at several others that have lately fallen under my observation, I am inclined to think that deviations from the healthy state of the uterus, some of which, as in the above patient's case, may even pass for a long time unnoticed, will, on close observance, be found to be much more frequently than

many seem to suppose the exciting, if not the direct, causes of that morbid condition of the nervous system from which the phenomena of hysteria appear immediately to spring; and should the remarks I have here made draw the attention of my professional brethren to the subject, and lead to further observations, the object which I have in view in forwarding this paper for publication will be accomplished.

TREATMENT OF BURNS.

To the Editor of the Medical Gazette.

Sir,

Knowing the difficulty which is always experienced in obtaining a fair trial for a new remedy, or a new mode of treatment, I have little reason to complain that the paper which appeared some years ago in the Medical Gazette, detailing my new method of treating burns, should have passed without notice and without comment. At the same time I have had the satisfaction of knowing that it has been silently making its way amongst my medical friends in various parts of England; and every succeeding year has brought me the gratifying testimony that its success has been equally satisfactory in the hands of others as it has proved under my own inspection.

Some of the correspondents in the Medical Gazette, who have lately done me the honour to notice my last communication upon the subject, have expressed their doubts as to the perfect success of the plan, as regards its completely preventing the formation of matter. Mr. Leach says he is less sanguine than myself as to its effecting this result; and Mr. Meade, in his very excellent paper, expresses a similar opinion; and as this is the fundamental principle of my method of treating burns, I cannot allow the occasion to pass without saying a word in vindication of the perfect and complete success of the plan; and nothing but imperative professional duties should have prevented me from sooner replying to the objections of these gentlemen.

In my original paper I stated, that wherever the injured parts can be preserved from much pressure and from friction, the effect of the plan will be complete; but where these causes cannot be avoided, there will always be a risk of partial suppuration taking place. This is owing, as suggested by Mr. Meade, to the difficulty of preserving the integrity of the coating; but it is really astonishing how seldom, and to how small an extent, this cause operates; and by substituting wax dissolved in warm turpentine, instead of the Ung. resin. flav., the difficulty is in most cases obviated.

But it is the new principle involved in my plan—that of treating burns by the first intention—that I am most anxious to promulgate, not doubting that if this principle was once generally acknowledged and acted upon, means would soon be devised to remedy any defects that might be found in carrying out the details. The advantages held out by my plan are great and manifest: in the first instance affording a speedy relief to the sufferings of the patient, and ultimately increasing the chance of recovery, by avoiding the shock occasioned to the system by a large suppurating surface, and by certainly avoiding disfigurement of the countenance, where the injury sustained is on the face; and with equal certainty avoiding the contraction of limbs by the formation of bridles by the cicatrices, where it occurs on the extremities. And I may add that, in cases which are not recent, and where suppuration has already taken place, this plan will put a stop to the further formation of matter, and the parts will granulate and skin beneath the coating.

In conclusion, I beg to express my thanks to Mr. Sweeting for his testimony as to the success of this mode of treating burns; and I now leave it in the hands of my professional brethren, hoping that many amongst them will be found to possess sufficient faith to try the plan, and sufficient liberality to report its success.—I remain sir,

Your obedient servant,
Edward Greenhow, M.D.

North Shields, Dec. 20, 1838.

STRUCTURE OF THE TAPETUM.

To the Editor of the Medical Gazette.

Sir,

May I beg the favour of you to insert the following communication on the

structure of the tapetum in ruminating animals.—I am, sir,

Your obedient servant,

HENRY JOHN CARTER,

One of the House-Surgeons of University College Hospital.

University College Hospital,
Dec. 24, 1838.

While examining the structure of the choroid in the eyes of different animals during the summer of 1837, I was struck with the resemblance between the metallic lustre and colours of the tapetum of the ox and the iridescence of tendon; and knowing that the latter depended on the refraction of light, I proceeded to compare the two structures. For this purpose I made use of a common lens; and the resemblance between the two appeared so great, as to leave little doubt that both were composed of the same kind of fibres.

Since that I have compared the fibres of the tapetum of the ox and other ruminants with those of tendon, with the aid of a powerful microscope; and I am still more convinced that they are identical in structure.

The tapetum, then, in ruminantia, consists of a layer of wavy, uniform, parallel, transparent fibres; and the metallic lustre and colours, which are brightest where the fibres are most numerous, depend on the refraction of light.

That the colours are produced in this way is rendered evident by pressing the transparent fibres of the tapetum against the subjacent choroid, when the black pigment immediately beneath becomes visible, and the metallic lustre and colours disappear. The reverse takes place when the pressure is removed, and the fibres resume their original disposition.

ACARUS THE CAUSE OF ITCH (?).

To the Editor of the Medical Gazette.

SIR,

IN my last letter I reviewed briefly the statements of some of the principal authors who have spoken of the Acarus scabiei. I endeavoured from their conflicting testimony to account for the scepticism which has so often prevailed with regard to its existence, and, by pointing out more precisely the locality of the insect in question, have afforded to those who may yet doubt its reality an opportunity of removing their scruples. We have now to inquire how far its presence must be considered as the essential cause of scabies. This is a question not quite so easy of solution as that relating to its habitât. If we before saw writers differing on this latter point, here we meet with not less discordance on the subject at present under consideration. Four opinions appeared to have been entertained. According to one of these, which numbers among its supporters the respectable names of Degeer, Redi, Wichman, Pringle, &c., and more lately MM. Raspail, Gras, and Aubé, the acarus is considered, in the words of the first-named of these authors, as "*l'unique cause de cette vilaine maladie*" (scabies.) Another opinion is, that the insect, when found, is always a product of the disease; but this theory is unsupported either by great names or sound arguments, and although its advocates have given several reasons why it should not be considered as the cause of scabies, yet they advance nothing which proves that it is simply a product, nor has this been done by any author with whom I am acquainted. Others, among whom is Morgagni, supposed that in most cases it is a product of the disease, but in some instances the cause; but this supposition rests on no better a foundation than the former, and is besides contrary to analogy. The advocates of the two last opinions contend, that the acari will not live when placed on a healthy individual—an assertion which we shall see by and by to be erroneous; that when the vesicles of scabies dry, or are destroyed, the acari invariably die or disappear; but it is surely as rational to attribute the disappearance of the vesicles to the death of the acari. They imagine them to arise in the same manner as the lice which sometimes appear suddenly in patients convalescent from fever or other diseases. Murray* says, that previous to any appearance of pustules, there is always a foulness of the juices, and that when this foulness has got to a certain height, the acari of cheese or meal are induced to seek a nidus in the skin—an error with regard to the species of acarus which he probably borrowed from Linnæus. It remains to mention the fourth and last theory,

* De Vermibus in Lepra, &c. 4to. Goetting. 1769, p. 9.

which is that of Sauvages*. This nosologist enumerates eleven species of scabies, one only of which he supposes owes its origin to the acarus: this he calls the scabies vermicularis, and remarks that Linnæus considered it the most frequent variety. Having already cursorily disposed of two of these hypotheses, we shall confine ourselves to the examination of those advanced by Degeer and Sauvages. It is asserted, then, by the advocates of the first theory we have alluded to, that the acarus is the essential cause of the contagious element of scabies; and in support of this they affirm, that it is generally met with in every case that has not undergone treatment; that wherever there is no "cuniculus†," there we may be sure remedial measures have been had recourse to. 2dly. The acarus is proper to the itch, and has never been found in any other disease. 3dly. Scabies can be produced by inoculation with the insect, but cannot by inoculation with the fluid contained in the scabious vesicles. 4thly. It is a local disease, unaffected by any general antiphlogistic mode of treatment efficacious in the ordinary forms of cutaneous disease, but is most quickly cured by those remedies which are most fatal to the acarus; and I may add, lastly, that the length of time which clothes and bedding used by scabious individuals retain their infectious properties, is decidedly in favour of the theory we are at present examining. But before I pass to the consideration of the opposite side of the question, I must say something respecting the experiments upon which the third argument adduced is founded. In the year 1820 MM. Lugol and Momouval, while prosecuting their researches on scabies, and endeavouring, but in vain, to meet with the acarus, which they looked for in the fluid of the vesicles, proposed testing the contagious nature of the serosity. Nineteen individuals, males and females, were subjected to the experiment; in some of these the fluid was simply rubbed into the skin, about the wrist and fingers, while in others it was inserted with the lancet, in the same way as the vaccine virus is; but in none was scabies produced, and in one only a small pustule arose, which disappeared of its own accord in two or three days. Hence, the argument of those who contend that when scabies is produced by acari, it is owing to the contagious matter of the vesicle which they transport with them, falls to the ground. Opposed to these results are the essays at inoculation made with the insect; these have been repeated at various times of late, and by different individuals. I will report one undertaken by M. Gras on his own person: — "On the 1st of September," he says, "I placed on the anterior and inferior part of my right forearm seven living acari, which I covered with a piece of linen and diachylon. Four days after, there were four to five well-marked cuniculi; and on the 6th, two of the insects were extracted from them in presence of Drs. Eymery and Robert, and M. Forget, *interne:* they were replaced on the skin, and on the 12th another was extracted in presence of Dr. Brande. On the 14th, 'vive démangeaison,' and appearance of a vesicle in the space circumscribed by the plaster. On the 16th, fresh vesicles in the neighbourhood of the sillons, but not on their trajet: these were recognised by M. Eymery, and several other distinguished physicians to be evidently psoric; the serosity of some of these is become troubled, but none exist where the diachylon is in immediate contact with the skin. 17th. The friction of the linen has destroyed all the old vesicles, but two or three fresh ones have made their appearance. The next day a termination was put to the experiment by rubbing myself with the Pommade Sulfuro-alcaline. During the whole duration of the experiment there was itching at intervals." If this experiment can be relied on, it is decisive as respects the production of a local vesicular disease having all the characters of scabies; but it is to be regretted that the plaster was not removed, and thus the opportunity of ascertaining whether other parts of the body would have become affected was lost. The experiments which I have just related derive further confirmation from analogous ones which have been performed on animals; and as these may not be known to the gene-

* Nosol. Method. Spec. 11.

† *Cuniculus, sillon, furrow,* have been used synonymously to denote the hair-like subcuticular passages which are formed and inhabited by the acarus: it is from the supposed resemblance of these to rabbit-burrows that induced MM. Raspail and Gras to give them the very appropriate name of *cuniculi*.

rality of my readers, I trust it will not be considered out of place if I here advert to them. I must premise, then, that what is called the mange in animals, and which is too common among dogs and horses, is a disease analogous to scabies in the human subject; that acari, or sarcoptes, as they have been more accurately named by Latreille, not very dissimilar in appearance from the Sarcopties hominis, and resembling them in their habits, are found in this disease, each animal of course having a different species of acarus. By transplanting some of these from a diseased horse to a healthy one, mange is produced in the latter, and so of other animals in which the experiment has been made; while inoculations with the matter from the mangy sores, fails in producing the disease. Hertwig * affirms that he has frequently repeated the following experiment, which was first made by Walz:—"From the first appearance of mange on any particular sheep or horse, the animal was every day carefully examined, and every insect that was seen was picked out and destroyed: after this had been continued for some days, the disease healed of itself, while in other animals attacked about the same time, and on whom this treatment was not pursued, it daily increased."

Having stated the arguments in favour of the insect being the essential cause of scabies, let us consider the objections to this view of the subject. 1st, then, we are at issue with those who assert that the acarus is to be found in every case of itch that has not undergone treatment; according to our experience, the cases in which it is discovered, so far from being the majority, form the exceptions; 2d, there is no proportion between the number of lines and the number of vesicles; frequently not more than one or two of the former exist in patients thickly covered with the latter; 3d, cuniculi are scarcely ever observed on any other part of the body than the hands and wrists; 4th, it is admitted by the advocates of the parasitic origin of scabies that this disease sometimes persists after several days' treatment must have destroyed all the acari or their eggs; but M. Gras anticipates this objection by supposing that the action of the acari may be not merely local and mechanical, but that they may act on the whole system in a vital and physiological manner. M. Aubé*, in a thesis published at Paris, two years ago, considers the acarus to be a nocturnal animal, attacking its prey by night at a multitude of points, but in the day time retiring to the tenebrous sillon which forms its habitation: this theory is ingenious, and if proved would go far towards removing the second objection stated above. Leaving for my readers to decide which view of the question is best supported, I shall conclude this letter by inquiring how far Sauvages may be correct in restricting the ravages of the acarus to one species of scabies. The only fact in favour of this opinion with which I am acquainted has been already alluded to in discussing the objections to the parasitic origin of scabies; viz. that it is only in some cases of this disease that the insect can be found. I may likewise add that sometimes the cuniculi are so numerous as to induce a belief that the vesicles interspersed among them may arise from the irritation necessarily produced in the formation of so many sillons. But the following case, which might with justice have been so called, S. vermicularis, militates against this idea. The patient was a boy 14 years of age, who applied at the Dispensary for an eruption which had "tormented" him for three weeks past; the hands were covered with cuniculi, which equalled if not exceeded the number of vesicles scattered among them. Several living acari were extracted, and after three days' inunction with the sulphur ointment, the vesicles had increased in number, but no fresh cuniculi were observed. Some of the old ones were now explored, and acari extracted, but they were all dead.

Having terminated, although unsatisfactorily, the inquiry which I proposed undertaking at the commencement of my letter, I shall leave for my readers to form their own opinions on the comparative merits of the theories we have been reviewing; but one interesting question connected with this subject I have not yet broached—can a mangy animal communicate the itch to man? or can the latter, infected with scabies, impart the same to

* See the Veterinarian, for 1838, vol. xi. (vol. vi. new series,) on the Acarus of Itch and Mange, by Hertwig, of Berlin.

* Considerations générales sur la Gale et l'Insecte qui la produit. Thèse inaugurale. Paris, Mars 1836.

the former? With your permission sir, I will discuss this subject in a future number of your journal.

Your obedient servant,
C. HOLTHOUSE.

13, Keppel Street, Russell Square,
Dec. 24, 1838.

STRAY NOTES FROM BERLIN.

(*For the Medical Gazette.*)

1. *Oleum Morrhuæ, or Oleum Jecoris Aselli—Oil of the Liver of the Ass.*

THIS article of the Prussian Pharmacopœia, which is nearly unknown in England, was introduced into German practice about 15 years ago, from Sweden, where it had been long employed. Three sorts of it are prepared.

The first is of a white or gold-yellow colour; is the purest, and that used in Norway and Sweden. It is procured by pressure from the fresh liver, after it has been exposed to the sun. It is seldom to be met with in Germany. The white oil prepared in this country is usually quite inefficient, and is made from the brown sorts, by freeing them from their colouring matter by hydrochloric acid and other means. The second of a brown colour; has been the longest employed in Germany; and is obtained by exposing the putrefying liver to the sun. The third, or empyreumatic, also of a brown colour, and generally muddy, is obtained by pressure from the putrid liver after it has been roasted. All these varieties are very nauseous to the taste, but the first is the least so. One ounce costs about 2d. This remedy has been used in a variety of diseases, and has been found very effectual in some. It is largely employed by many of the most experienced physicians of Berlin, and especially by Dr. Barer, in the *Clinique*, for the diseases of children. When given in small doses, it acts generally as a tonic, but when given in larger quantities, purges freely. It was first recommended in cases of gout and chronic rheumatism, but appears to possess no especial virtues in the treatment of these diseases, though it has been occasionally found to be of advantage, especially in the latter.

It has also been employed in cases of scirrhus. Dr. Barer states that in his own experience a tumor, having all the characters of scirrhus, disappeared under its internal use; and Professor Dieffenbach believes that he has used it in many cases with a similar result.

But the diseases in which it is most strongly recommended are scrofula, and especially scrofulous diseases of bone. In that form of scrofula occurring in children, and known under the name of mesenteric atrophy, Dr. Barer has exhibited it, even in very far advanced cases, with the most marked benefit; and Günther records the case of a child, which had suppurating ulcers on its neck and extremities, attended with hectic fever; yet which, under the use of this medicine (two spoonfuls of it taken daily), was completely restored to health. It is not found to be an agent of much value in rachitis, and is much inferior to iron, except in cases which are complicated with scrofula. On the whole it may be said that, in the opinion of most of the medical men of Berlin, it is perhaps the most valuable remedy we have against scrofula in all its different shapes. Its exhibition must usually be continued for some months.

It may be given to children in doses from 1 to 1½ tea-spoonsful twice a day, in some light bitter aromatic vehicle; and to grown-up individuals in the quantity of a table-spoonful several times a day. The following are some German formulæ for its use:—

℞ Ol. Jecor. Aselli, ℥ij. Vitelli Ovi, ℥i. Syrup. Menthæ, Syrup. Aurant. aa. ʒij. Misce, &c.

℞ Ol. Jecor. Asell. ʒi. Liq. Potas. Carbon. ʒi. Ol. Calam. Aromat. gtt. iij. Syrup. Cort. Aurant. ʒi. Misce, &c.

It is unknown to what ingredient ass's-liver oil owes its efficacy; some suppose to a small quantity of creosote. At all events, it seems unlikely that it should have any especial properties, not possessed by similar animal oils. Train oil is, we believe, largely employed by veterinary surgeons in England.

2. *Case of incipient Amaurosis.*

A. C., miner, aged 24, of full habit, with short neck and broad shoulders, squints slightly with the right eye, and has scarcely perceptible paralysis of the muscles of his left cheek; is slightly deaf on one side. He walks unsteadily, and complains that he cannot see distant objects distinctly. He can distinguish nearer objects accurately, but his eyes are easily fatigued. Four

years ago he suffered from a copious "foot sweat," which at one time disappeared, but has lately begun to return; has had occasional numbness in his legs, and pains in the loins, and has been subject to fulness of blood in the head. He feels at present a "deep boring" pain in his eye-ball, and pain, with a sound of hammering, in the back part of his head.

Professor Jüngken took occasion to remark that the vagueness of the term amaurosis had been very injurious in the treatment of the diseases of the eyes, and had led to the empirical use of the same remedy in cases of the most dissimilar nature. He thought it would be well if the name of amaurosis were confined to cases arising from either of the following causes:—1st, Neuritis or inflammation of the optic nerve itself. The morbid anatomy of this affection is pretty well made out. On post-mortem examinations, the neurilema is found thickened, and almost of a leathery consistence, and the nervous matter wasted away, along with enlargement, and in some cases ossification of the ophthalmic artery. 2dly. Affections of the brain itself, whether arising from violent congestion, from tumors in the substance of the brain, from thickening of the membranes, or from pressure of osseous growths.

The predisposing causes to neuritis and disease of the brain may be generally stated to be abdominal plethora, and cases of amaurosis, arising from cerebral congestion, which are occurring every day more frequently, are chiefly seen in those who have occasion for much mental exertion, and are subject to mental anxiety. In the present instance, the constitution of the patient, the violent pain which he experiences, and the whole history of the case, point to an affection of the brain, probably of a congestive nature.

In all cases of amaurosis the prognosis must be very guarded; though, in the present case, the youth and health of the patient are in his favour.

As to the treatment, it is obvious that, in such a case, to employ strychnia or veratrine would be to add fuel to the flame. A general antiphlogistic treatment and derivation from the head were obviously indicated. He should put the patient on a rigorous diet—"on a hunger cure;" he should establish a seton in the neck, and have the feet done up in strips of "emplastrum cum galbano crocatum," and enveloped in thick woollen stockings. Internally, he should commence by opening the patient's bowels freely, and then putting him for a couple of months on a course of the Decoctum Littmanni.

The importance attached to the use of a stimulant application to the feet, may be considered as very characteristic of German practice. The Decoctum Littmanni is employed very largely in the practice of Berlin, especially in cases of secondary syphilis. It is of two strengths. The *fortius* consists essentially of sarsaparilla and calomel; half an ounce of calomel being added to a decoction of twelve ounces of sarsaparilla (in twenty-four quarts of water, which are boiled down to eight).

The *mitius* contains six ounces more of decoction of sarsaparilla. It is usual to give the patient half a quart warm, in bed, in the morning; one quart of the weak, cold, in the forenoon; and again in the evening half a quart of the strong, also cold. This course is discontinued for a short time after the first seven or eight days, and a purgative is usually given every five days while the medicine is used.

3. *Abscess of the Cornea.*

G. H., a middle-aged man, labours under arthritic inflammation of the eye; and in the centre of the cornea is to be seen an extensive abscess, which has not opened either externally or internally. The history of the case is remarkable. He had suffered about a year ago from arthritic ophthalmia, which had terminated in the formation of an abscess in the cornea. The inflammation had yielded to appropriate treatment, and the abscess, instead of opening itself, gradually dried up, undergoing, as it were, a process of mummification, and leaving behind a thick orange-yellow coloured spot. The eye had been lately re-attacked by inflammation, and this spot was again in a state of suppuration. No treatment different from that of common arthritic ophthalmia was indicated.

4. *Catarrho-rheumatic Blennorrhœa of the Eye.*

B. F., shoemaker, aged 18, of florid appearance, has had pain in his eye for the last eight days. The conjunctiva,

especially the palpebral of his right eye, presents a red colour, resembling velvet, with prominent granulations, which secrete a very acrid milky-coloured fluid. The sclerotica is also inflamed; and from the muddy colour of the iris, inflammation of the membrane of the aqueous humour is inferred.

Professor Jüngken observed, that modern pathology had proved that inflammations and blennorrhœas were essentially different in their nature. Pure primitive blennorrhœas, such as the Egyptian and gonorrhœal ophthalmia, are, in their origin, quite independent of inflammation; but blennorrhœas may also, as in the present case, be consecutive on a simple, for instance a catarrhal, ophthalmia. In both cases the attendant inflammation is only to be looked on as symptomatic, just as, in phthisis pituitosa, inflammation is to be regarded merely as an attendant symptom. In the acute stage, when the case is seen early, the prognosis is always favourable, although a chronic blennorrhœa is a most obstinate disease. No disease can be more easily made to assume a chronic character from bad treatment than this. In the early stage of this, as of a common gonorrhœa or clap, topical stimulant applications are invariably injurious. The patient should be bled to twelve ounces; twelve leeches should be applied to his eye; he should have a strong calomel purgative immediately, and one grain of calomel should be given every two hours. A blister should be applied to the back of his neck, his feet washed with a stimulating lotion, and the acrid secretion of the conjunctiva removed by bathing the eyes in luke-warm water. Diet antiphlogistic.

5. *Pterygium tenue.*

E. M., innkeeper, aged 55, of robust frame, had often suffered from catarrhal ophthalmia; his left eye presents the appearance of a fine mask of varicose vessels running from the external angle to the centre of the cornea, which is obscured by the scar of a scrofulous ulcer, which the patient had had since childhood. The form of the pterygium is triangular, the apex being in the centre of the cornea.

Professor Jüngken said, that although not likely to be mistaken, there were some points of analogy between pterygium and pannus. They both occurred chiefly in middle-aged men, and in those subject to abdominal plethora. Pannus was, however, merely an hypertrophy, while pterygium was a new formation. Pannus followed on rheumatic, while pterygium was the result of catarrhal, ophthalmia.

As to treatment, topical applications would in the first instance be injurious. In such a case as this a course of the Carlsbad waters would be of infinite service. The appearance of hæmorrhoids would probably be followed by the vanishing of the pterygium. Pterygium might almost be termed hæmorrhoids of the eye, and was perfectly analogous to true hæmorrhoids. On this account, the diet of the patient ought to be very sparing, and his bowels kept regularly open: a drain ought to be established in his arm. After two months of this treatment, the patient would probably be in a fit state for operation, and he should then remove the pterygium. After the operation, the use of astringents would be necessary, although at present it was highly improper.

German Degrees.

In remarks on German medical degrees, which have from time to time appeared in the MEDICAL GAZETTE, those degrees have been generally spoken of as if they were all of the same class, and of the same value. The degrees of the different universities are in very different repute, those of Berlin, Halle, Bonn, and Leipzig, standing perhaps highest, and those of Giessen and Jena lowest, in public opinion. A good German degree is probably quite as good a test of proficiency as an Edinburgh one, and has this superiority, that it is given to no one under 22. In both cases, the mass of graduates are very ignorant of practical medicine. Medical degrees are, however, obtained by foreigners much more easily than by Germans, and this tends to diminish the real value of the distinction as conferred on foreigners. The second, or "Staats Examen," which every German has to undergo before he is allowed to practice, is pretty severe, and the examination for the degree of M.D. is looked on as comparatively very slight. It is admitted by all Germans that in some of the smaller universities degrees are given on notoriously easy terms, often without even the pretence of an exami-

nation. The degrees of Erlangen do not stand high, though perhaps not of the very lowest class. The letter of M.D. of Erlangen, which appeared in the MEDICAL GAZETTE in summer, merely shows that that university had in one instance conferred a degree on a person who describes himself as one of considerable acquirements.—I am, sir,

Your obedient servant,

J. M.

Berlin, Dec. 1838.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

A Treatise on the Chemical, Medicinal, and Physiological Properties of Creosote, illustrated by Experiments on the Lower Animals; with some Considerations on the Embalment of the Egyptians. Being the Harveian Prize Dissertation for 1836. By JOHN ROSE CORMACK, Member of the Royal Medical and Royal Physical Societies of Edinburgh. Edinburgh, London, and Dublin, 1836. 8vo. pp. 154.

THIS essay is divided into two parts. The first chapter of the first part treats of the other substances which Reichenbach discovered about the same time as creosote—namely, paraffine, eupione, picamar, capnomor, and pittacal. Our author says that Reichenbach published accounts of these new substances in 1830, and the subsequent years; but he does not give the exact date either of the discovery of creosote, or of its introduction into medical practice, both of which we should have wished to see in an express treatise on this remedy. The remaining chapters of this part are on the physical and chemical properties of creosote, on the Egyptian embalming, on creosote as the antiseptic principle of peat, and on its preparation and adulterations. It appears that creosote is sometimes adulterated with oil of tar, and sometimes with capnomor. In either case the impurity may be detected by treating the suspected fluid with acetic acid, which dissolves creosote, but does not act at all upon the oil of tar, and scarcely at all upon capnomor. Reichenbach once attempted to procure a creosote sufficiently pure for medical purposes by a simplified process, but when administered it produced the most frightful vomiting. Other chemists, however, have been more successful, and have shortened the process, without injuring, as we believe, the quality of the creosote.

The second part of Mr. Cormack's essay contains the history of the substances whose medicinal properties seem to depend on the presence of creosote, together with the physiological and medicinal properties of this remedy. The first chapter treats of "Mummy, human and mineral; the mantey of the Arabs, cedria, tar, soot, eau de Binelli," &c. &c.

Mummy has been used in medicine from the earliest times, and, though now happily exploded from European practice, is still a favourite remedy with the Arabs. The following quotation, which our author gives from Sir Thos. Browne's Hydriotaphia, is particularly quaint and racy:—

"The Egyptian mummies, which Cambyses or time hath spared, avarice now consumeth. Mummy is become merchandize: Mizraim cures wounds, and Pharoah is sold for balsams."

Mr. Cormack thinks "that in the embalming process creosote was generated, and propelled into every tissue."—(P. 44.)

Perhaps of all remedies resembling or containing creosote, tar water enjoyed, though but for a brief time, the greatest reputation in these islands. Our author dismisses it in a few lines. After observing that pitch pills have been used in skin diseases, he says, "Tar water has been found useful in such affections, in dyspepsia, and other diseases; but its fame, though at one time great, was short-lived, on account of the absurdly extravagant praises of the celebrated Berkeley."—(P. 60.)

Many of our readers would probably be glad to know what were Berkeley's opinions on tar water; for as his book is generally dismissed with suspicious brevity, and a copy of the *Siris* is not very common in private libraries, they merely know that he praised the remedy beyond all bounds, and thus perhaps contributed to what, in modern phrase, is called a reaction. We will gratify their curiosity. This amiable prelate, to whom Pope attributed "every virtue under heaven," in his turn attributed every one to tar water; and in his treatise, called "Siris*: a Chain of Philo-

* We are informed in "A Second Letter from

sophical Reflections and Inquiries concerning the Virtues of Tar Water," &c. he seems to suppose that it is a preventive, as well as a cure, for every possible malady, and that it might be substituted with advantage for fermented and distilled liquors. His method of making tar water is as follows:—

"Pour a gallon of cold water on a quart of tar, and stir and mix them thoroughly with a ladle or flat stick for the space of three or four minutes, after which the vessel must stand eight-and-forty hours, that the tar may have time to subside, when the clear water is to be poured off and kept for use, no more being made from the same tar, which may still serve for common purposes."—(Siris, 2d edit. p. 4.)

The following theory of the operation of tar water is ingenious:—

"To suppose that all distempers arising from very different, and, it may be, from contrary causes, can be cured by one and the same medicine, must seem chimerical. But it may with truth be affirmed, that the virtue of tar water extends to a surprising variety of cases, very distant and unlike. This I have experienced in my neighbours, my family, and myself; and as I live in a remote corner, among poor neighbours, who for want of a regular physician have often recourse to me, I have had frequent opportunities of trial, which convince me it is of so just a temperament as to be an enemy to all extremes. I have known it to do great good in a cold watery constitution, as a cardiac and stomachic; and at the same time allay heat and feverish thirst in another. I have known it correct costive habits in some, and the contrary habit in others. Nor will this seem incredible, if it be considered that middle qualities naturally reduce the extreme. Warm water, for instance, mixed with hot and cold, will lessen the heat in that, and the cold in this.

"They who know the great virtues of common soap, whose coarse lixivial salts are the product of culinary fire, will not think it incredible that virtues of mighty force and extent should be found in a fine acid soap, the salts and oil whereof are a most elaborate product of nature and the solar light.

"It is certain tar-water warms, and therefore some may, perhaps, think it cannot cool. The more effectually to remove this prejudice, let it be further considered, that as, on the one hand, opposite causes do sometimes produce the same effect—for instance, heat by rarefaction, and cold by condensation, do both increase the air's elasticity—so, on the other hand, the same cause shall sometimes produce opposite effects: heat, for instance, in one degree thins, in another coagulates, the blood. It is not, therefore, strange that tar-water should warm one habit and cool another—have one good effect on a cold constitution, and another good effect on an inflamed one; nor, if this be so, that it should cure opposite disorders. All which justifies to reason, what I have often found true in fact."—(Siris, pp. 34-5.)

Here are some of its more special virtues:—

"Many hysteric and scorbutic ailments, many taints contracted by themselves or inherited from their ancestors, afflict the people of condition in these islands, often rendering them, upon the whole, much more unhappy than those whom poverty and labour have ranked in the lowest lot of life; which ailments might be safely removed or relieved by the sole use of tar-water; and those lives which seem hardly worth living for bad appetite, low spirits, restless nights, wasting pains and anxieties, be rendered easy and comfortable."—(P. 48.)

"This same water will also give charitable relief to the ladies, who often want it more than the parish poor; being, many of them, never able to make a good meal, and sitting pale, puny, and forbidden, like ghosts, at their own table, victims of vapours and indigestion."

"Studious persons, also, pent up in narrow holes, breathing bad air, and stooping over their books, are much to be pitied. As they are debarred the free use of air and exercise, this I will venture to recommend as the best succedaneum to both. Though it were to be wished that modern scholars would, like the ancients, meditate and converse more in walks, and gardens, and open air; which, upon the whole, would perhaps be no hindrance to their learning, and a great advantage to their health. My own sedentary course of life had

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the Author of Siris to T. Prior, Esq.," that the ancient Egyptians called the Nile *Siris*, and that this word, in Greek, also signifies a chain.

long since thrown me into an ill habit, attended with many ailments, particularly a nervous cholic, which rendered my life a burthen; and the more so because my pains were exasperated by exercise. But since the use of tar-water, I find, though not a perfect recovery from my old and rooted illness, yet such a gradual return of health and ease, that I esteem my having taken this medicine the greatest of all temporal blessings, and am convinced that, under Providence, I owe my life to it." — (Pp. 56-7.)

One of the Bishop's most zealous followers was a Mr. Thomas Prior, who collected and published several hundred cases of the successful use of tar-water. If Berkeley is remarkable for the vigour of his style, Mr. T. P. and his correspondents are no less conspicuous for *naïveté*. We will give a few instances. A chaplain to a workhouse says,

"182. A gentleman, bred an apothecary (and therefore will not mention his name), came one evening into our hall, in a very melancholy way, with an inflamed sore throat," &c.

"A gentlewoman in the country had hurt her leg, which, being neglected, grew exceeding bad: a gangrene was apprehended. She had a physician and surgeon from Cork to attend her. After some months' physicking, cutting, and tenting, they abandoned her, declaring she must never hope to recover the use of her leg, which was wasted and useless," &c.

In the case of a boy, nine years old, "to induce the child to drink plentifully of tar-water, they gave him a groat a glass, and he earned half a guinea in two days. This is the only way to prevail on young children to drink it*."

These extraordinary eulogies, and the subsequent fate of the lauded remedy, are enough to give us pause, and clearly show that the highest popularity is not always a sufficient test of the excellence of a medicine. Let us hope a better destiny for creosote; the success with which it has been employed in many and distant countries may permit us to expect it; for distance of place is, perhaps, equivalent to lapse of time in ensuring impartiality. At any rate, it is certain that the minute attention with which the effects of new drugs are observed is favourable to the progress of medicine; and researches of this kind often remind one of the husbandman in the old fable, whose vineyard afforded an ample harvest, though it did not realize the promised gold.

Other substances owe part, or the whole, of their efficacy to the creosote which they contain, such as crude pyroligneous acid, *acqua Binelli*, and empyreumatic water. Soot, in various forms, has often been used with success. Mr. Cormack believes that an oil distilled from rags has long been a secret remedy in the toothache; and the country people in Scotland procure an oil very useful in the same disease by burning paper. They call it paper oil. Reichenbach believes that the animal oil so much extolled by Dippel and Hoffman owes its virtues to creosote.

In the second chapter we have a number of experiments on animals. The result of them is, that creosote is a sedative poison, and acts more energetically when injected into the veins than the arteries.

The third and last chapter gives an account of the merits of creosote when tried in toothache, caries, burns and scalds, hæmorrhage, ulcers and chancres, cancer and lupus, cutaneous diseases, chronic glanders, diseases of the eye, gonorrhœa, menorrhagia, bubo, condyloma, diabetes, epilepsy, neuralgia, nervous palpitation, vomiting, and pulmonary diseases.

We do not think that it has earned a sound and lasting reputation in many of these disorders, though in several it is at least worth trying. Its power of coagulating albumen would seem to indicate it theoretically in passive hæmorrhages, as well as in wounds. In the latter case, one drop of creosote to fifty of water is a sufficiently strong styptic. We once saw it of great apparent benefit in a case of hæmorrhage from the bowels: the following, if we recollect rightly, was the prescription:—

℞ Creosoti ♏ xx.; Mucil. Acac. q. s.; Aq destill. ℥viii. Fiat mist. cujus sumat coch. ij. major. ter in die.

"When there are any symptoms of gastritis it should never be given." (P. 142.)

It stimulates considerably, as it would seem, before it exerts its sedative power, and is therefore probably contra-indicated in almost every case of active inflammation.

* An Authentic Narrative of the Success of Tar-Water. By Thomas Prior, Esq. A new edition. London, 1746.

Mr. Cormack's treatise shows ability as well as research; we hope he may continue his investigations as he more than half promises at the end of his preface; we do not mean those horrible experiments upon animals, but an examination of the power of creosote in curing disease.

The Philosophy of Disease; or a Popular Outline of the Principles of Medical Science; comprising a brief Exposition of the Laws of Inflammation. By James Bower Harrison, M.R.C.S. London and Manchester. 1838. 12mo. pp. 152.

This little work is divided into three parts. The first treats of the laws of inflammation, and is divided into chapters, on the nature and uses of inflammation, on its terminations, and on its treatment. The second part treats of inflammation modified by structure, and is divided into chapters on inflammation of the cutaneous system, the serous tissue, the cellular tissue, the fibrous membrane, and the osseous system. The third part discusses the disordered conditions of the vascular system, which are not dependent on inflammation, and contains two chapters, one on congestion, and the other on morbid secretion.

Mr. Harrison had originally intended this treatise for the medical student, but he has now addressed it to the general reader. We think this is one of the numerous instances where first thoughts are best; for our author's essay, though sensible and judicious, seems to us deficient in the vivacity required to attract the attention of ordinary readers. There are exceptions, no doubt, and many lay perusers of professional books may be considered as medical students who do not intend to go up for a diploma. They will find much instruction in Mr. Harrison's book, and wish that it was longer.

An Essay on the Pathology of the Urine; to which is added, a Report on Cases of the Renal Disease. Illustrated by Six Coloured Engravings. By Edwin Adolphus, M.D. London, 1838. 8vo. pp. 91 and 22.

The author informs us that his essay having been one of those which received the particular approbation of the Medical Faculty [at Edinburgh], he has been induced to publish it, with some improvements. The treatise shews judgment as well as great reading, and is evidently the production of one who is determined to work at his profession. The Report contains eight cases of Bright's disease of the kidney, which occurred in the practice of Drs. Christison and Craigie. We cannot praise the illustrations.

When Dr. Adolphus grows an old and hardened author, he will see the necessity of giving running titles, and a regular table of contents, instead of such a one as he has inserted at pp. 3-4, which has no references to the pages. Nay, when a treatise is so full of facts as his, we would even beg for an index in addition.

MEDICAL GAZETTE.

Saturday, January 5, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

Cicero.

RE-VACCINATION.

A few years after the introduction of vaccination, a gentleman who happened one day to meet Fordyce at a coffee-house, said to him, "Pray, doctor, give me your real opinion about vaccination; what do you think of it?" With a discretion more easy to admire than to imitate, the doctor replied that he should be very happy to give his opinion on the subject in fifty years' time. We are approaching the end of this period; forty years have now elapsed since the introduction of the cow-pox, and we might almost begin to hope for a solution of this great medical problem. But in this as in other cases, difficulties thicken the most just before they are finally unravelled; and opinions of every colour and every shade, as to the preservative powers of vaccination, are sent forth at the present moment in the most perplexing variety.

Eight years ago, Mr. Lawrence, in the lecture to which we have just been indebted for the anecdote of Fordyce, put forth an opinion, the latter half of which time has, unfortunately, but tended to confirm :—

"We must allow, then, that although persons are not justified in saying that the preservative influence of cow-pox extends only to a limited time, yet we may say that, so far as we know, the preservative influence becomes weaker in proportion to the length of time that elapses from the vaccination."—Med Gaz., vol. vi., p. 155.

It is obvious, however, that if the preservative power not only becomes weaker in proportion to the time which has elapsed since vaccination, but diminishes with considerable rapidity, we soon arrive at a period when, for practical purposes, it may be considered as null. In such a case it is natural to try to obtain a renewal of the prophylactic charm: the shield is almost worn out—is no longer arrow-proof; why not get a new one? Re-vaccination in seven, or ten, or fifteen years, after the first insertion of the cow-pox, would seem so useful a precaution, that it is at first perhaps rather difficult to imagine any arguments against it. Yet such have been brought forwards by M. Rochoux and others, somewhat in the following style.

They observe that two principal reasons have been given for re-vaccination; the one being the degeneration of the vaccine matter, and the other the loss of its preservative power in a given individual, through the lapse of time. To this M. Rochoux replies, that the different kinds of virus are in their nature analogous to organized creatures, and are therefore capable of being indefinitely reproduced, with all their properties. He gives, as instances, the syphilitic and the variolous virus; the former of which has remained unaltered for more than three ages, the latter for more than twelve. To this it might be rejoined that M. Rochoux is wrong, in at least one of his two examples; as the mitigation of the syphilitic virus has now for some years been a subject of remark and commentary, but not a topic of dispute. Dr. Hecker, of Berlin, the learned historian of disease, attributes this fortunate change to the cessation of the scorbutic diathesis; the ancient severity of syphilis having arisen, he says, from the engrafting of its own poison on that of scurvy; while the present European diathesis, the scrofulous, does not foster the venereal poison in so terrible a manner. But whatever may be the cause, the effect is certain; nor does it matter, in a practical point of view, whether the syphilitic virus is milder in itself, or finds a stronger resistence from modern constitutions; and in like manner it would be of little avail if the vaccine virus remained equally strong, if the bodies of the vaccinated were less capable of profiting by its prophylactic efficacy. The schoolmen used to say, *quodcunque recipitur, recipitur ratione recipientis;* and thus, to use M. Rochoux's bad example against himself, it is possible that a change in temperament, like that which has made the Hunterian chancre comparatively rare, may have made small-pox after vaccination comparatively common.

The vaccine virus, continues to argue M. Rochoux, has now been transmitted two thousand times, and would therefore have long ago lost all its preservative power, had it been capable of the slightest deterioration.

True, if the deterioration were considerable at each transmission; but not necessarily true, if each deterioration were excessively small. In the latter case we should imagine the first tangible deterioration to be slight, doubtful, and the instances of it but few: we should suppose the examples to grow

by degrees stronger and more numerous, until at last few could venture to cherish a doubt of their reality, and the majority of the profession were forced to confess, that small-pox after vaccination was frequent. Now the facts accord precisely with this theory; two thousand transmissions have been accompanied by a gradual deterioration.

But, says M. Rochoux, it is certain that persons vaccinated with this old virus are as safe from small-pox as those who were vaccinated with the fresh matter thirty-six years ago. Nay, if this is quite certain, there is an end of the matter, and re-vaccination is an illaudable superfluity; but it seems to us that our medical brother's *certainty* is what we call begging the question; all the doubts and alarms now abroad spring from innumerable facts which are unfortunately too certain, and are point-blank in opposition to the certainty of M. Rochoux.

Even if this deterioration were so much to be feared, we might prevent it, he says, by having recourse to a fresh stock, or, in his own words, "*en rajeunissant le virus*," by making the virus young again.

No doubt this is one of the things which ought to be done, and which was done some months ago by our correspondent, Mr. Estlin, of Bristol. This, however, leaves the other questions untouched—namely, what is to be done with those who have been vaccinated for the last twelve or fifteen years with doubtful matter, and after what period should vaccination be again performed, as a general rule? In Germany, Dr. Heim, after ample opportunities of observation, has come to the conclusion that vaccination should be renewed after the lapse of fourteen years.

M. Rochoux smiles at the exactness of the calculation, and wishes to know whether three or seven years might not be fixed upon with equal truth, or, on the other hand, double or quadruple the period fixed by Dr. Heim, ought not to be preferred.

Perhaps the time pitched upon by Dr. Heim may ultimately turn out not to be the nearest possible approximation to absolute truth; yet it is probable that his scientific guess, being founded upon long experience, will prove more accurate than the jests of M. Rochoux. When a person, too, is vaccinated in infancy, fourteen years will bring him to puberty; and as it is pretty certain that this great change alters the susceptibility of morbid impressions, the practitioner, by waiting until it is established, may recommend re-vaccination with confidence in its renewed powers.

In Germany, the proportion of successful re-vaccinations has been very large, being, according to one writer, 37 in 100; and, according to the Report of the French Institute, 20,000 out of 44,000. M. Rochoux affirms that in France the results have been quite different, M. Baudelocque having succeeded only once in 125 times, and M. Gérardin once in 11 times. As to the Prussian documents, M. Rochoux pushes them aside with the most painful *nonchalance*. They passed, he says, through the hands of Rust, a furious partizan of the contagiousness of cholera; and he sarcastically tells us, that we must shew some indulgence to minds which are invincibly directed towards error by a sort of affinity. *Ergo*, we are not to believe a word of what happened in Prussia; for the accounts sent from every part of that large kingdom have been so cooked by this choleric doctor, that they go for nothing; Rust and error are *sib*—cousins, or thereabouts. Now the truth is, as every one must know who is acquainted with the medical literature of Germany, that Rust has one of the clearest heads extant, and is eminent both as an author and a practitioner; and to suppose that

he cannot add up the figures sent to him because he believes in the contagiousness of cholera, is as unreasonable as it would be to say that M. Rochoux cannot write French, because he takes the other side of that vexed question.

In this statistical argument M. Rochoux's best case is the epidemic small-pox which raged at Marseilles in 1828. At that time there were 30,000 persons in the town who had been vaccinated; of these, 2000 were attacked with small-pox, or the varioloïd disease, and twenty only died (according to another authority, however, forty-five died.) There were 2000 persons who had previously had the small-pox; of these, twenty were again attacked, and four died. This shows that vaccination is a greater protection than even the having previously suffered from small-pox, especially if we take M. Rochoux's *twenty*, not M. Bousquet's *forty* deaths. Yet this fact, however interesting in itself, has but a slender influence on the question of re-vaccination; the question still remains, is it not advisable, after the lapse of a certain period, to diminish the chance to which even the Marseillese were exposed of suffering from small-pox? Should this question be answered in the affirmative, we shall then have to fix the precise period for repeating the inoculation of the cow-pox.

We will continue the discussion of this subject in another number.

DR. ELLIOTSON'S RESIGNATION.

The report of Dr. Elliotson's resignation, to which we alluded last week, proves to be correct, and various versions of the story—as is usual in such cases—are in circulation. We believe the fact to be, that for a considerable time the Professor of Medicine has not been on good terms with any of his colleagues, except Mr. S. Cooper, and that great disapprobation has long been expressed of his Mesmeric performances. This opposition to his magnetic exhibitions has naturally gained strength since the exposure which was made a few months ago, and lately led to the somewhat decisive measure of directing some of his young ladies to be sent out of the hospital. Upon this, the Doctor resigned, and has thus produced the greatest embarrassment in University College, the members of which have been casting about for a successor, and, if our information be correct, even made advances to the Professor of Medicine at a rival seminary.

We understand that Dr. Elliotson has returned the amount of fees received during the present season, and thus, as it were, clears himself with the College; but this by no means settles his account with the pupils, who will be placed under the most embarrassing and disadvantageous circumstances. We can scarcely believe that Dr. Elliotson has actually determined not to finish his course—he who has been so prodigiously indebted for his success to the gentlemen attending his lectures! We trust that this version of the circumstances (which, however, is the one current among those who appear to be best informed) will prove to be incorrect.

WESTMINSTER MEDICAL SOCIETY.

December 22, 1838.

Hale Thomson, Esq. in the Chair.

Mr. Knox's new Bed for Invalids—Open Foramen Ovale unaccompanied with blueness of the Surface — Discussion on the Nervous System concluded.

The minutes having been read,

Mr. D. O. Edwards introduced to the notice of the Society a new couch, invented for the use of invalids, by Mr. Knox, of Jermyn Street. Mr. Edwards stated, that having been connected for many years with hospital practice, he had always felt very sensibly the great inconvenience which the imperfect construction of beds

and fracture apparatus occasioned. The large amount of suffering which had always been beyond the reach of relief, in bed-ridden patients, whether confined from various fractures, from paralysis, or long-continued chronic diseases, formed a constant source of regret to the medical man. When he first saw Mr. Knox's couch, he felt convinced that it would supply many desiderata, and he had consequently taken great interest in the application of the apparatus. He had witnessed three cases, at St. Thomas's Hospital, in which its use had been of the greatest service. It was not, therefore, an untried machine he was bringing before the Society—it was no hypothetical plan—but one which had been tried and approved of by the medical staff of one of our first hospitals. He would briefly allude to these cases. One of them was that of a man, thirty years of age, who fell and fractured the first lumbar vertebra, the injury being accompanied with displacement of the upper part of the broken bone. The sphincters were paralysed, and complete paraplegia existed. He was placed on Mr. Knox's bed on the 5th of July. The urine and fæces passed involuntarily; it was necessary to change often his linen, blankets, and bedding: this was done without causing the least inconvenience to the patient. The bed was often turned on its axis, for the convenience of the sufferer, by the nurses, the other patients, or the friends. The poor fellow was thus placed on his back, or his side, or prone, according to his own pleasure. He lay prone for various lengths of time—such as twenty-six, eighteen, ten, or six hours. He generally preferred lying perfectly prone or supine to lying on his side, on which he seldom remained longer than a couple of hours. Towards the end of life, he could not rest in any posture more than two or three hours. In order to change the bedding, the attendants moved the bed round, till the face of the patient was downwards. Whenever he was fed, an inclined plane was formed, by moving the inner frame of the bedstead upon a transverse axis, and thus the head was raised and the feet depressed to any angle desired, and the *ennui* of uniform position relieved. Whilst he was supine, his lower limbs were placed at pleasure on a single or double-inclined plane; and this part of the machinery is so contrived as to accommodate itself to the different lengths of limbs. Johnson (the patient) lay on this couch from the 5th of July till the 6th of December, when he expired. He always was full of gratitude for the great ease and confidence of security which the apparatus afforded him. An autopsy exhibited the spinal marrow, though not lacerated, pressed upon by the displaced arch of the vertebra, but *perfect ossific union* had taken place between the broken surfaces which remained in contact—a fact shewing the complete quiescence insured to the fractured parts by the apparatus. This man was under the care of Mr. Travers and Mr. South, who authorized Mr. Edwards to declare their unqualified approbation of the bed.

In the second case, the patient fractured one of the lower dorsal vertebræ. Mr. South trephined him, but upon removing the arch of the vertebra, the spinal cord was discovered to be completely divided, though the theca was entire: of course no ultimate good resulted from the operation. The bed, however, proved of great service. The patient was raised from the operating table, and placed prone on the bed; the bedding was then placed over him, and he was gradually, and without succussion, turned round on the vertical axis till he lay supine. In this way, during the short remainder of his life, he was moved, and his excrements removed and dressings changed, without exciting the slightest motion in the injured part.

A third case is one of concussion of the spine, now laid upon the bed. The patient is recovering, and warmly expresses his thankfulness for the comfort he has experienced. Mr. Edwards concluded by observing that Mr. Knox had incurred a very great expense in constructing his apparatus; he had made a great many beds which were failures, before he had succeeded in bringing his machine to its present perfection; and he (Mr. E.) thought that Mr. Knox, by adding so materially to our means of alleviating suffering, had entitled himself to the patronage of the profession.

Mr. Knox placed one of his men in the bed, and exhibited the various changes of position which it affords to the patient.

Two certificates in favour of the bed, from Mr. Travers and Mr. South, were read by the President, who himself stated that he perfectly approved of the principle of the apparatus. He had recently had a case of fracture of the lumbar vertebra, in the Westminster Hospital, wherein the bed in question would have added most materially to the means of relieving the patient.

The bed was now examined by the members generally.

Dr. Chowne said he could not allow Mr. Knox to depart without expressing his admiration of the ingenious apparatus which he had constructed. It armed the medical man with new powers, in the most hopeless cases. The Society had derived great satisfaction from the inspection of the bed, and it was right Mr. Knox

should know that the profession fully appreciated the merit of his invention.

Dr. Golding Bird, after a short pause, presented for the inspection of the society the heart of a patient whom he had recently attended. The subject of the disease was a young woman of handsome person, about 28 years old, and who consulted him on the 15th November ultimo. She was an excellent specimen of what Dr. Blundell had called the "waxy chlorosis." She complained of miserable sensations about the uterine system, and had palpitation of the heart and dyspnœa on going up stairs, or when exerting herself in any way. She stated that she had suffered dyspnœa from her infancy. Dr. Bird prescribed purgatives, hydrocyanic acid, and steel, which apparently relieved her. About a month after this date she became suddenly worse. Dr. B. found her suffering from excessive dyspnœa, and breathing with a loud crepitating râle; her face anxious and *pale*. Auscultation gave evidence of extensive emphysema of both lungs in front, but none behind. The chest when struck sounded like a drum. In the heart a loud sound, like the *bruit de rape*, was audible: at first little was thought of it, as being common in cases of chlorosis; but subsequently the sound was found to be peculiarly sharp and grating. It accompanied the first sound of the heart, and was loudest a little to the left of the sternum. The emphysema prevented its being heard distinctly in the posterior regions of the thorax. The sound was constant, and unaffected by change of posture, but it was more audible under excitement. The friends stated that until her seventh year she was blue, but since that period she had always been very pallid. Dr. Bird treated her for a few days with apparent benefit, but on receiving some exceedingly vexatious intelligence connected with a law-suit, she suddenly died.

The *inspectio cadaveris* shewed the organs of the abdomen and pelvis in a normal state, except the ovaries, where some traces of incipient disease were evident. The lungs were highly emphysematous, some bullæ existing as large as walnuts. The heart was firmly contracted, and there was in the left side a deposit of fibrin. The left ventricle was slightly hypertrophied. The structure of the valves afforded a type of a healthy heart, with the exception of slight granular elevations on the plane of the aortic valves. The foramen ovale was open, and would admit the passage of the index finger. It was guarded by a valve, which prevented the blood from flowing from left to right, but not from right to left. Dr. B. thought the case interesting, as shewing the existence of an opening between the auricles without the occurrence of a blue tinge for twenty years. Analogous cases are on record, but in this it was difficult to account for the *bruit*. Could it arise from the impulse of the blood on the granulated surface of the aortic valves?

Dr. C. B. Williams did not think the *bruit* in question arose from roughness of the aortic valves, for he had seen many cases, especially in patients from 30 to 40 years of age, in which this condition existed, but produced no murmur. He considered the mitral valve to be the seat of the sound. He did not think that that valve in the present heart was perfectly normal: it was thicker, and more rigid than natural, and a small foramen existed in its substance. The slightest displacement of its margin would permit the regurgitation of the blood. In chlorotic females this displacement was often the only thing to account for the *bruit* described. There was always something imperfect, either congenital or acquired, where murmurs were audible, even in chlorosis. The state of the blood in this disease was such as to lead to the more easy development of these imperfections. An imperfect closure of the mitral valve was not an uncommon occurrence. The blue appearance was not always present where the foramen was open, but this discoloration was very seldom absent where there was a concomitant obstruction in the pulmonary circulation. In the case related by Dr. Bird, there was no doubt that the dyspnœa occasioned an admixture of the nervous with the arterial blood, and yet no blueness was perceptible. He thought the cause of this was the diminished bulk of the general mass of blood, which was not sufficiently copious in the capillaries of the lips and face to produce discoloration. In chlorosis this was particularly the case.

Dr. Bird had met with a case in which the foramen ovale was patent, and where the patient was blue only a few days before death. In judging of the normal condition of the valves of the heart, he always had recourse to an experiment. He cut off the apex of the heart, and tied the aorta or arteria pulmonalis, and poured cold water into either ventricle: if the water was retained by the valves, he considered them to be healthy. In the case of the young woman whose heart lay on the table, the mitral valve had completely prevented the escape of the water; hence he inferred its soundness.

Dr. Chowne thought that where the foramen ovale was open, and no blueness existed, it did not always follow that the occurrence of obstruction in the lungs should produce it. There might be retardation of the flux of blood through

the lungs, and yet no increased pressure on the sides of the auricles. In Dr. Bird's case, the foramen ovale was valvular in form, and it would consequently resist the passage of the blood from one auricle to the other, on which side soever the pressure was made. He did not think the state of the circulation in chlorosis sufficient to account for the absence of the blue tinge where the foramen ovale was open. There was evidently no lack of blood in the capillaries, for if you pricked the skin of a chlorotic patient with a needle, blood would issue out of the puncture.

Mr. Gregory Smith had examined a great number of hearts, with a view of determining the relative number of patulous foramina ovalia; and he had found that this abnormal condition was by no means so uncommon as was generally supposed.

Dr. C. B. Williams did not think, with Dr. Chowne, that the form of the foramen ovale just exhibited to them would produce a valvular effect in both directions. Any undue impulse from the right side would make an opening for the blood through the foramen. If the lips of a chlorotic patient were pricked with a needle, the blood would of course flow, because that fluid must be present to sustain the nutrition of the part. What he had meant to say was, that in chlorotic cases, the quantity of blood being insufficient to produce a natural sanguineous colour of the skin, the slight admixture of the venous and arterial blood would not be observable. He (Dr. W.) had had a case under his care, in which a woman was free from blueness of the skin until her 25th year, when phthisis occurring, she became discoloured. There was an opening through the foramen ovale, which was obliquely valvular, producing closure when pressure was exerted from the left, but not from the right. He did not think the test employed by Dr. Bird was of any value. He had formerly tried it, but he could never succeed in meeting with a heart in which the auriculo-ventricular valves would hold water. He had been for years in the habit of examining the foramina ovalia of all the hearts that passed through his hands, and he could not concur with Mr. Smith in the opinion that the circumstance of its openness was at all common.

Dr. Bird said, that in a long series of cases examined by Andral at La Pitié, the proportion in which the foramen ovale was found open was about one-half per cent.

The President now called upon Mr. C. Chowne, as the mover of the adjournment on the previous evening, to proceed with the discussion on Mr. Streeter's paper on the nervous system.

Mr. Chowne stated that he had merely moved the adjournment *pro formâ*, in order that the Society should not lose the benefit of the discussion on Dr. Hall's interesting speculations.

Dr. Chowne stated his concurrence with the view advanced by Dr. Addison of the close analogy between the forms of rheumatism, and certain pseudo-paralytic affections of the nerves.

Dr. Marshall Hall sent round two drawings in which were depicted two different affections of the facial nerve; the one was spasm, the other true paralysis: in both cases the functions of the orbicularis palpebræ were disturbed; in the spasmodic case, however, the mouth was drawn towards the same side; in the paralytic case it was drawn towards the opposite side. He suspected the cases of Mr. Streeter were spasmodic, and not truly paralytic.

Mr. Streeter said there was no mistake in the matter; his cases were examples of true paralysis, and the mouth in each was drawn to the opposite side.

Dr. Hall suspected, then, that there existed two kinds of affection of the facial nerve, distinct from genuine paralysis; the one affection was that described by Mr. Streeter, the other was the spasmodic, affection described by himself.

Mr. Gregory Smith had recently had a case under his hands, in which there was a fracture of the fifth cervical vertebra; there was complete paraplegia of the upper and lower extremities, but the patient had priap—ismhow did Mr. Hall account for this circumstance by his system?

Dr. Hall said that priapism was an excito-motory act. Mr. Earle had shewn that priapism exists in injury of the spinal marrow, only when that injury is in the neck. Priapism may be induced in patients who have injury or disease of the spinal marrow, by introducing a catheter into the urethra. The emission of the semen depends upon the excito-motory function of the spinal marrow at its lower part. This is shewn by an experiment of M. Segalas, who experimented on a Guinea pig. On irritating with a stilette the upper part of the spinal marrow, near the cerebellum, erection of the penis was produced; but when the stilette was pushed into the lumbar portion of the medulla, ejaculation of semen took place, whilst the bladder retained its contents. In cases of complete paraplegia, the excito-motory powers remain. He had recently visited a paraplegic patient on board the "Dreadnought" Hospital Ship; and by irritatiug the limbs convulsive motions were produced. Sensation and volition were destroyed in Mr. Smith's case, but the functions of the true spinal marrow remained.

Mr. Gregory Smith stated that he had often tried to irritate the limbs of paraple-

gic patients, and never could succeed in producing motion.

Dr. Hall said no effect could be expected until the patient had been for several days paraplegic, when any stimulus would produce the effect, such as the sudden application of heat or cold, or an electric shock.

Mr. Smith had tried all these means, at all periods, but without effect.

Mr. Snow stated that Dr. J. Reid, in a paper read before the General Philosophical Association, had shewn by satisfactory experiments that the glosso-pharyngeal nerve was an excito-motory nerve, and that to it was entrusted the function of deglutition.

Mr. Streeter was surprised at that, for he thought Panizza had found the glosso-pharyngeal to be a nerve of taste.

Dr. Marshall Hall stated that his views of the nervous system consisted of a series of indubitable experiments, the inferences from which would be evident to every mind. He had shewn that the *vis nervosa* of Haller, and the *vis motoria* of Müller, had a much more important application to physiology than those philosophers had suspected. The modes of action of this principle were at variance with the laws promulgated by those writers. If the trifacial nerve be irritated on its distribution over the nostrils, or on the palate, or the pneumogastric on the larynx, an immediate action of respiration is produced. Dr. Hall now entered into some prolix statements to shew that this action was of an excito-motory nature. In the action of the orbicularis palpebræ, the trifacial nerve is the excitor, and the facial the motor nerve; and it had been shewn by Dr. J. Reid that the superior laryngeal is the excitor, and the inferior the motor, in the closure of the glottis. The action of the pharynx, œsophagus, and cardia, in deglutition—of the expulsors of the fæces and semen—and of the sphincters, arises from the agency of similar excitor and motor nerves, and their central point, the spinal marrow. Professor Müller had asserted that the vis motoria acted in only one direction, from the root to the branch of the nerve; but here it is evident that it acts in more directions. He thought his experiments had proved to the satisfaction of every unprejudiced person, that the vis motoria acts along incident excitor or incident motor nerves, in a manner unknown before the commencement of his experiments, six years ago; and that the principle has a much more extensive application to physiology than was ever suspected before his time. He would beg of the society to read the various works on physiology, and then reflect upon his discoveries, and he was sure they would rise convinced of the inextricable maze of confusion in which the scientific world was lost as regards these truths, until they were enlightened by his researches.

The society adjourned for a fortnight.

IDIOS.

ON THE

VALUE OF CREOSOTE

AS COMPARED WITH OTHER REMEDIES,

In the

TREATMENT OF SURGICAL DISEASES.

BY J. L. DA LUZ.

THE effects of creosote, says Da Luz, have been so exaggerated, that it is only necessary to reckon up the diseases in which it has been recommended, in order to become distrustful of its marvellous healing powers. Without, however, undervaluing its efficacy on this account, he thought it behoved a clinical lecturer to make unprejudiced experiments with creosote in the diseases against which it has been extolled, and at the same time to compare its powers with those of well-known remedies under similar circumstances, and thus to arrive at the most impartial conclusions possible. The following are his experiments, and the results deduced from them:—

CASE I.—*Herpes crustaceus* on the inner part of the leg. Linseed poultices, and then lotions of creosote water, were employed, without benefit. A blister was then applied, and the patient was cured.

CASE II.—A soldier, aged 29, came into the hospital, with his limbs and body covered with an itching eruption, called *Coceira* or *Pruritus*. Two ounces of creosote ointment, made with a drachm of creosote to an ounce of lard, were immediately applied every twenty-four hours; on the third day of the treatment the pruritus was considerably; abated, on the tenth day the pustules began gradually to disappear, and on the twenty-first he was perfectly cured.

CASE III.—*Herpes furfuraceus* in a peasant, aged 28. Tepid baths, bleeding, saline decoction, repeated aperients, and calomel, were employed without any perceptible effect. The juice of house-leek was now administered internally, and an ointment made with the same plant was rubbed in. The patient was cured on the twentieth day.

CASE IV.—*Ichthyosis* of the right leg in a shepherd, aged 50. When this patient was admitted, the skin of the whole extremity was slightly erysipelatous—a condition which was removed by emollients in seven days, a great part of the eruption

scaling off at the same time. The creosote was now employed in the form of ointment twice in twenty-four hours. Four days after the use of this remedy, pain came on, together with the most violent burning in the whole leg; and the erysipelatous inflammation extended even beyond the boundaries of the earlier eruption. The ointment was therefore discontinued, and recourse was again had to local emollient applications. When the complication had been thus removed, after the lapse of some weeks the creosote was again employed, but with the same result. The experiments were thus alternated for two months, when all treatment was given up, and the herpes [ichthyosis] resumed its characteristic appearance.

Case V. *Scabies.*—A man-servant had laboured under itch for four weeks, which was relieved by creosote lotion, (a drachm to a pound of water), and cured by the creosote ointment in three weeks.

Case VI. *Scabies.*—A boy, aged ten, who had laboured under itch for three weeks, was cured in the same period by the creosote ointment alone.

Case VII. *Scabies.*—A dirty cow-boy, who had been troubled with the itch for three months, was cured in about six weeks by warm baths and two bleedings, followed by the use of the creosote, and afterwards of tar ointment.

Case VIII. *Scabies.*—A baker, who had had the itch for four weeks, was cured by the tar ointment in nine days.

Case IX. *Scabies.*—A carpenter, who had been infected eight days, was perfectly cured by the tar ointment in a week.

Case X. *Scabies.*—A day-labourer, aged 20, had been afflicted with an eruption for five weeks, which disappeared after using a sulphur ointment for three days, but soon returned. He was cured in fourteen days with the tar ointment.

Case XI. *Scabies.*—A vagrant, aged 16, who had had the itch twelve days, was rubbed with common oil on the 7th of June, the day of his admission. On the 12th the itching was less, but fresh pustules came out on the fingers and wrist. The patient was washed with soap in a warm bath. Afterwards, from the 13th to the 16th, the frictions with oil were again used; the itching was now gone, and no fresh pustules had appeared. The patient now took another warm bath, the frictions with oil were discontinued, and on the 18th he was discharged quite well.

Case XII. *Scabies*—A beggar, who was in the hospital on account of chronic ulcers of the legs, in seven days was cured of the itch which he had had five days, by repeated frictions [with oil] morning and evening, and washing with soap in a warm bath.

Case XIII. *Scabies.*—A soldier, aged 30, who had had itch on his lower extremities for six months, which had only recently extended to the rest of his body, was cured in seven days by the sulphur ointment and warm baths.

Case XIV. *Tinea.*—A boy, aged 14, had suffered from tinea capitis since his eleventh year, and it now spread from his head over his whole body. After the application of emollient poultices, which loosened the crusts, and left behind large red spots, sprinkled with small confluent pustules, the creosote ointment was rubbed in twice a day. In the course of four months, during which it was only once necessary to discontinue the frictions on account of erysipelatous inflammation of the scalp, he was cured by the use of the ointment and alternate washings with soap and water.

Case XV. *Tinea capitis favosa*, [Porrigo favosa.]—A peasant, aged 17, who had suffered under this disease since his thirteenth year, without having had any treatment, was cured in something less than seven months. The treatment consisted in rubbing in the following depilatory ointment, and also sulphur and charcoal ointment:—

℞ Potassæ Carb. 3iij. Calcis Extinctæ 3ij. Axungiæ ʒv. M.

℞ Pulv. Carb. Cort. Sobri ʒj. Sulphur. Sublim. ʒij. Axungiæ ʒv.

The patient was also washed with soap and water.

Case XVI. *Tinea furfuracea.*—A boy, aged 9, who had laboured under this disease for two years, was admitted into the hospital. After emollient washings and poultices, he was treated with the depilatory ointment, and then for two months with the creosote ointment, but with so little result, that the sulphureous ointment above mentioned was adopted instead, by which he was cured in eight weeks.

Case XVII. *Tinea capitis.*—A boy, aged 10, whose head was covered with roundish spots of porrigo, somewhat raised, was cured in three months with emollient washings and poultices, and rubbing in an ointment three times a day consisting of sweet olive oil and spermaceti, which was occasionally washed off with soap and water.

Case XVIII. *Tinea granulosa.*—A muledriver, aged 18, came into the hospital on the 13th of March, 1836, suffering under this disease. After the usual cataplasms and the application of the depilatory ointment, he was rubbed with the creosote ointment, and washed with soap and water alternately for two months, but was dismissed after five months' treatment, but little relieved.

Case XIX. *Ulcer.*—A day-labourer had an ulcer on the leg, four inches in cir-

cumference, which was treated with creosote water for five weeks without advantage, and then cured by Bell's method.

Case XX. *Ulcer.*—A day-labourer, aged 50, suffering from chronic ulcer of the leg, was treated for sixty days with creosote water without advantage, and then cured in three weeks by Baynton's method.

Case XXI.—A day-labourer, aged 48, had had a syphilitic eruption for eight months, which spread over the whole body in the form of distinct and elevated crusts, and at the same time he had a considerable ulcer of similar appearance on the left leg. After the use of Brugnatelli's antisyphilitic rob for eighteen days, the crusts disappeared from the rest of the body, but the ulcer on the leg became very sensitive, was covered with a thick, pulpy, lead-coloured skin, extended considerably, and put on the appearance of hospital gangrene; the general state of the patient, however, was favourable. The ulcer was now besprinkled, twice a day, with powders, consisting of sugar and camphor, on which violent pain came on, and the extent and bad appearance of the ulcer increased, with the addition of fever and tenderness about the præcordia. Labarraque's solution was now used externally, and an infusion of linseed internally; but the pain continued unabated, and the gangrene extended over the whole of the muscles of the calf. Creosote water was used for dressing, and a saline mixture internally; but the ulcer continued to spread. Pure creosote was now applied to the ulcer, on which the pain diminished, inflammatory reaction shewed itself within the ulcer, the gangrenous parts gradually came away, and in three weeks the ulcer began to cicatrize.

Case XXII. *Condylomata.*—A man-servant had condylomata around the anus, in the folds of the sphincter; and they suppurated a little. Hip-baths were first employed, and charpie was applied; on which the pain and suppuration disappeared, but the excrescences remained unaltered. Charpie dipped in creosote water was now applied, and as this was of no use the warts were touched with a hair-pencil dipped in pure creosote: this produced excoriation, without affecting the condylomata. Solution of corrosive sublimate proved useless; but cauterization with pure nitric acid was advantageous.

Case XXIII. *Condylomata.*—The creosote was equally useless in a sailor, who, besides other syphilitic symptoms, had large condylomata on the anus. It merely produced inflammatory excoriations, and forty days after its first application the condylomata were still unaltered.

Case XXIV. *Abscess.*—A boy, aged 15, had been in the hospital twenty months with a white swelling of the hip-joint (*coxalgia*). Suppuration had taken place, and three fistulous openings had formed, which poured forth a quantity of fœtid and serous pus. When the inflammatory symptoms arising from the opening of the tumor had ceased, creosote water was injected experimentally. This caused pain in the joint, which afterwards went off, but the pus retained the same appearance. Although the creosote water was made stronger, and continued for forty-five days, the condition of the patient remained the same.

Case XXV. *Abscess.*—A boy, aged 10, had a similar disease, and the creosote was equally useless.

Case XXVI. *Abscess.*—A day-labourer, aged 19, was admitted with an abscess arising from congestion, on the shoulders, near the dorsal vertebræ. The swelling was small, not painful, and had no perceptible fluctuation. The cautery was first applied at the sides of the diseased part, in order to remove the cause of the abscess, which seemed to be fixed in the spinal column; but the tumor increased to the size of a large orange, began to show evident fluctuation, and was opened by means of caustic potash, at the spot where there was inflammatory redness of the skin. The suppuration was very copious, and as it continued for twenty-two days, creosote water was injected, and continued for thirty days, without the suppuration diminishing in the least.

Case XXVII. *Bubo.*—A soldier of the municipal guard was admitted with two open and suppurating buboes; the skin over the glands was detached, livid, and very thin. Two days after his admission, the left bubo was dressed with creosote water, and the right with dry charpie, and a graduated compress put on. The right bubo cicatrized earlier than the left.

Case XXVIII. *Caries.*—A boy, aged 9, was suffering from caries of the bones of the tarsus of the left foot. The soft parts had swelled as far as the malleolus, were very sensitive, and had two openings on the upper part of the tarsus. A probe went deep into the substance of the os cuneiforme and the calcaneum. After the patient had been treated for four weeks with cataplasms and emollient foot-baths, his condition remaining the same, the creosote water was used; the sores were washed with it, and then also injected into the lowest fistulous openings; but its chief effect was only to cause inflammation, and it was therefore requisite to omit it several times, and to substitute emollient poultices. At the end of two months the carious affection was not a bit better, and the general state of the patient was worse.

Case XXIX. *Traumatic hæmorrhage.*—In tying the carotid, the external jugular vein was injured, and such profuse hæmor-

rhage took place that it was necessary to discontinue the operation. Light compresses were of no avail, so that it was requisite to tie the vein; but whether from the hardness of its texture or from the direction in which the orifice of the vessel lay, even this powerful expedient failed. A fresh ligature was put on, but the blood continued to flow. A sponge dipped in a strong solution of creosote was now laid upon the centre of the wound, and the hæmorrhage stopped instantaneously, so that the operation was completed without much difficulty.

Case XXX. *Hæmorrhage.*—In drawing through the thread with Scarpa's needle, to tie the crural artery for an aneurism in the middle of the thigh, profuse arterial hæmorrhage took place at the very moment the instrument was crossing the vessel which was to be tied. The blood rushed from the wound in so great a quantity, that in all probability some important collateral vessel had been included in the ligature. Although the ligature was pulled firmly, the blood continued to flow with the same violence. The hæmorrhage was stopped by compression, but returned as soon as it was withdrawn. The hæmorrhage, however, ceased immediately on the introduction of charpie steeped in a strong solution of creosote (a drachm to three ounces of water.) Fourteen days afterwards the wound was freely suppurating, and the granulation healthy. On the fifteenth day there was hæmorrhage from the wound amounting to twelve ounces; it ceased spontaneously, but the creosote was again applied. On the sixteenth day the hæmorrhage recurred, the creosote proved useless, and prolonged swooning followed by death.

Case XXXI. *Hæmorrhage.*—A fisherman, aged 20, was admitted with a spongy polypus, which filled the whole of the right nostril. During its extirpation with the common polypus forceps, there was considerable hæmorrhage, as is frequently the case in this operation; but when it had been completed, and cold lotion had been applied with a plug and compress, the dressings were so soaked with blood in a few moments, and the blood poured forth from the throat in such quantities, that the pulse sank extremely, and the patient fell out of one fainting fit into another. Under these circumstances, and while the blood was streaming from the nose, small rolls of charpie steeped in creosote water were put into the nose with a pair of forceps. Immediately on the introduction of the charpie the bleeding diminished; and when the nostril was quite filled with it, the hæmorrhage ceased entirely. Six weeks afterwards, the extirpation was repeated; an equally violent hæmorrhage again took place, but was quelled by the creosote as quickly as the first time.

From these cases, with which many in his private practice accord, Da Luz comes to the following conclusions:—

1. In indolent eruptions, not very extensively diffused, creosote is not more efficacious than other remedies.

2. The long-continued use of this remedy often causes an inflammatory condition, which, however, has nothing in common with that of the disease which is to be cured.

3. In itch, creosote is as efficacious as sulphur, tar, and common oil.

4. In tinea it is not more powerful than the preparations of sulphur and emollient remedies in certain cases, and depilation practised according to Mahon's method.

5. It is an excellent cleansing remedy in atonic ulcers, but its prolonged use hinders cicatrization.

6. In hospital gangrene it is the best antiseptic, and the most powerful means of checking this frightful complication of wounds and ulcers.

7. Those condylomata, which are neither cured by emollient and tonic remedies, nor by solution of corrosive sublimate, are not cured by creosote.

8. Creosote has no marked influence on the secretion of pus, and therefore is useless in suppurating abscesses.

9. It has no power against caries.

10. It is an excellent styptic in capillary hæmorrhage; but in hæmorrhage from great vessels, particularly when it proceeds from suppuration of the arterial coats, it does not prevent a recurrence of the bleeding.—*Zeitschrift für die gesammte Medicin*, for September and October 1838, from the *Jornal da Sociedade das Sciencias Medicas de Lisboa.*

ATTENDANCE ON MEDICAL LECTURES.

To the Editor of the Medical Gazette.

Sir,

I beg leave to express my hearty concurrence in the sentiments expressed in your Gazette of the 15th of December, by a writer under the name of "a Professor of King's College, London." A greater absurdity can scarcely be conceived than to estimate medical education by what is performed by the teachers, without any reference whatever to the exertions of the pupil. According to the existing system, attendance on all the lectures of a course, where the lectures are delivered on three days in the week, is, perhaps, an insufficient proof of education, whilst attendance on half the lectures of another course, where such are delivered

on four days weekly, being two-thirds of the attendance aforementioned, is quite sufficient to satisfy the Board of Examiners!

To require lecturers to "satisfy themselves" as to the attendance of their pupils, while they are required to satisfy the Board as to the number of lectures delivered, is straining at gnats and swallowing camels. It may be fairly presumed, that a competent lecturer will deliver a sufficient number of lectures during his course; but it may not be presumed (inasmuch as it is contrary both to reason and experience) that he will, if allowed to act at discretion, drive pupils from his theatre, and money from his pocket, by demanding, as a condition for obtaining the indispensable "certificate," a more rigid attendance than suits the convenience or inclination of the respective members of his class, more especially as according to the present interpretation he may, without compromising his veracity, vouch for attendance on "the course," however small the part which he states to be equivalent to the whole. Yet it is on such a basis as this that medical education rests in this enlightened nineteenth century; it is upon such a test that the curriculum of study of one college is compared (and often invidiously) with that of another; and it is upon such a scale of comparison that it is proposed to "equalize" education throughout the united kingdom, and to establish one uniform system, on paper.

The first step, the *sine quâ non*, in any measure of real medical reform, is to limit the recognition of lectures, as conducive to legalized education, to the cases where adequate security is obtained that the certificate of the lecturer shall not merely refer to an undefined "course," but shall truly testify to attendance on a certain number of "lectures;" that is, that he shall certify as to how many lectures occurred in the course, at the entire of each of which the student was present. This object once attained, the regulation of medical education becomes a matter of comparative simplicity. It will be no longer requisite to specify the subjects or names of the courses; the number of lectures in the course; the number of lectures the student may with impunity neglect at the beginning, the end, or throughout; the last day of the session on which the lecturer may take pupils; or the first day on which he may grant them certificates; the distinction between illness and idleness as causes of absence, &c. The lecturers would be required to satisfy to a matter of fact, the number of attendances and the education of the candidate for a diploma being then estimated by the total number of attendances in the session, according to a scale (say, for instance, two hundred lectures in the session on not more than three subjects) it might be fairly presumed, that thus compelled to devote a certain time to listening to oral instruction, he would select the courses of lectures, and the lecturers, best adapted to supply its existing deficiencies of information, and which present so diversified a character, previous opportunities enabling some students, on commencing the education required for this diploma, to be already in possession of a part of the requisite information, but on different subjects in the various instances, thus making an invariable curriculum any thing but calculated to meet the object in view—the supplying the necessary information in every case.

I remain, sir,
Your obedient servant,
A Professor in the School of Physic in Ireland.

Dec. 1838.

WEEKLY ACCOUNT of BURIALS.

From Bills of Mortality, *Jan.* 1, 1839.

Abscess	1	Hæmorrhage	2
Age and Debility	27	Heart, diseased	1
Apoplexy	3	Hooping Cough	6
Asthma	7	Inflammation	19
Cancer	2	Bowels & Stomach	1
Childbirth	2	Brain	2
Consumption	30	Lungs and Pleura	9
Convulsions	17	Measles	2
Croup	1	Miscarriage	1
Dentition	2	Mortification	2
Dropsy	7	Paralysis	2
Dropsy in the Brain	3	Small-pox	13
Dropsy in the Chest	1	Unknown Causes	99
Fever	9		
Fever, Scarlet	3	Casualties	8
Fever, Typhus	2		

Increase of Burials, as compared with the preceding week . . . 70

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

December.	Thermometer.	Barometer.
Thursday . 27	from 31 to 40	29·55 to 29·87
Friday . . 28	27 40	30·07 30·21
Saturday . 29	25 45	30·11 30·12
Sunday . . 30	42 52	30·06 30·08
Monday . . 31	31 39	30·28 30·42
Jan. 1839.		
Tuesday . . 1	29 50	30·32 30·20
Wednesday 2	40 48	29 96 29·96

Wind, S.W.

Except the 27th, 28th, and 31st ult., generally cloudy, with frequent rain.

Rain fallen, ·4775 of an inch.

Charles Henry Adams.

NOTICES.

We shall give the Report of the Newcastle Medical Society next week.

Dr. Graves's Lecture, which should have appeared this week, is unavoidably postponed till our next.

Dr. Venables' Lectures will be resumed the week after next.

Wilson & Son, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, JANUARY 12, 1839.

LECTURES

ON

TUMORS OF THE BONES,

Delivered at St. George's Hospital,

BY MR. CÆSAR HAWKINS.

III.—2. *Cystic Osteosarcomatous Tumors.*
- A. *Simple Cystic Tumor.*
  - *a. Cystic Tumor of the Periosteum.*
  - *b. Cystic Tumor of the Cancelli.*
- B. *Pulsating or Aneurismal Cystic Tumor.*

3. *Cancer.*
4. *Fungous Tumors.*
- A. *Melanosis.*
- B. *Fungus Medullaris.*
  - *a. Solid and Osseous.*
  - *b. Soft and without Bone.*

III.—2. THE genus *cystic osteosarcomatous tumor*, which comes next on our list, is a tumor, which contains not a single cyst, like the serous tumor, with a bony or cartilaginous or membranous case, but a great many cysts, with sufficient solid organic substance, forming the partitions of the cysts, to communicate a feeling of solidity to the tumor; and it comprehends two species, which we will call the *simple cystic tumor*, and the *pulsating* or *aneurismal cystic tumor*.

A. First of the simple cystic tumor.

a. You may see here a preparation containing a number of cysts, and forming a tumor about three inches in length and two broad, which is attached to one of the ribs; there are thin membranous partitions between these cells, which contain a semitransparent gelatinous fluid of a white colour, half coagulated by the spirit, none of the cysts being much larger than a small nut. This tumor arose from a fall, which fractured the rib, the ends of which did not unite, but formed a kind of false joint, with which the tumor is connected by fibrous substance, and the tumor existed for many years, without occasioning any inconvenience.

Now I presume that this is a cystic tumor, originating in the periosteum, and of exactly the same character as the similar cystic tumor, which is met with in other parts of the body unconnected with bone. There is, however, in the museum of the College of Surgeons, a preparation, the history of which does not appear to be known, in which a cystic tumor with similar membranous partitions has a portion of loose bone in most of the cysts, looking as if they were the result of a kind of secretion, such as I have also seen in the cyst of the ovarium, the nature of the contents of cysts varying, perhaps, from some peculiar circumstances, of which, possibly, the proximity to the bone may sometimes be one.

The cystic tumor of a bone would present itself, therefore, in the form of an elastic tumor, sometimes containing osseous substance of irregular shape, in which the existence of fluid may be more or less evident to the touch; it would appear, also, that its removal, together with a part of the bone to which it is attached, would be the right practice, if it is troublesome, or increasing in size; but that it may sometimes be left for many years, without ending in any local or general mischief, in which respect it resembles the cystic tumor of the breast or other texture.

b. We might expect to find in the loose cancelli of a bone, that cells would sometimes enlarge, as in the cellular membrane elsewhere, so as to constitute a cystic tumor of the interior of a bone; but is there really such a tumor of the bones? I confess I have some doubts of the point. Cells, indeed, often form in the bones; you may see them of large size occasionally, in a state of atrophy, when a bone has not

been used, as with long-continued disease of a joint, the bone of the cancelli being in great measure absorbed, and the cavities, containing a mucilaginous or oily or half serous fluid, being thus left to occupy the vacant space: so again, any tumor of a bone may, on a section, shew several cavities containing half a drachm, or half a pint, or several quarts of liquid, as in a case I related in the last lecture, but such cysts are an accidental addition to the tumor, whether it be the fibrous tumor, or what is more frequent, the medullary or hæmatoid species; and the character of the tumor depends on the solid substance composing it, and not on the fluid. But there are sometimes cases in which no medullary or other morbid product can be perceived, and in which there are many cells containing blood or bloody serum, or sometimes transparent fluid, the bone being absorbed, and a covering of thin bone, or thickened or half ossified periosteum being found around the cells. Are we then to consider these as cystic tumors of the cancelli, like the last species of the periosteum? I recommend your reading a very interesting account of a case of this kind, published by Mr. Travers, in the 21st vol. of the Medico-Chirurgical Transactions; the tumor having appeared in a boy 10 years of age, after an injury of the clavicle, about a year after which Mr. Travers removed the whole of the clavicle except the sternal end. The tumor was found to consist of numerous cells, covered by a dense fibrous covering, and having some portions of bone in the interior, the cells containing dark grumous blood, both fluid and coagulated. The boy recovered from the operation, and was well a year afterwards, with very good use of the arm. Mr. Travers believes that the cause of the tumor was an effusion of blood into the cancelli by the injury, which was insufficient to break the bone, and that, being confined, the blood had excited irritation, which ended in the absorption of the osseous part and the growth of the fibrous texture of the bone.

I suspect, however, that most of the cases thus described are instances of fungous disease, in which the growth of cells is more rapid, and the proportion of solid matter less than usual. Sometimes such a tumor is found of the nature of that called the areolar cancer, by Cruveilhier, with numerous cells of transparent fluid; here, for instance, is a plate of such a tumor, where a surgeon attempted the removal of the tumor, and went on with the operation till the exposure of the dura mater shewed him what he was about. His wound healed, as it happened; and when the patient died, almost all the bones of the face and head were converted into this kind of disease. Here, again, is a humerus, which was amputated by Mr. Babington, at the shoulder-joint, for a large tumor, the interior of which consists of large cysts with dark grumous blood, a good deal of which has escaped, and the remainder has now lost its colour; you may see the cancelli quite gone, so that the bone bends, and some of the blood is in the cancelli of the upper and lower ends of the bone which still remains. The patient died soon afterwards, and here is the clavicle of the same side, in which the cancelli are partly absorbed, and the bone somewhat larger, but without any blood having been yet effused. Cruveilhier has a plate of a tumor of the thigh-bone in exactly the same state; and I believe that although almost entirely formed of cysts, the disease is of a malignant character, and of the fungus hæmatodes kind.

But whether all such cases are malignant, or some of them are cystic tumors of the cancelli of an innocent kind, like those of the periosteum, there can be no doubt that when we meet with a soft elastic tumor of a bone feeling as if it consisted of cysts, or proved to be so by puncture with a grooved needle, it ought to be removed when increasing rapidly, as some of them do; then let the dissection satisfy our minds whether there is any malignant matter in the interstices of the cysts; or if we still feel doubt, let the event decide at least the degree of such malignancy.

B. The other species of cystic tumor of the bones is a pulsating, or rather aneurismal tumor, the pulsation not always being evident; it is called, also, osteo-aneurism, by Breschet, who first collected some cases of the disease; or you may find a still larger series of instances, supposed to be of this disease, in a probationary essay by Dr. Handyside.

One of the few good descriptions of the disease is that of a man whose leg was amputated by Dupuytren, above the knee, and whose case is narrated by Breschet. The upper part of the tibia was expanded into a thin shell of bone, with membranous interspaces, in which the pulsation had been felt, with numerous varicose veins emerging from holes in the tumor, and with all the smaller arteries going to it increased in size, though the popliteal arteries and vein were healthy. On a section being made, the tumor was found to contain numerous cysts or compartments, lined by a vascular membrane highly developed, some containing a gelatinous fluid, some a black half putrid liquid, others a mixture of extravasated injection and coagulated blood, in distinct layers, like the coagulum of an aneurism, derived from numerous vessels ramifying

with open mouths upon the membrane lining the cysts. There is another case, published by Joseph and George Bell, of Edinburgh, of the same structure, but not pulsating; the tumor was of the femur, and the thigh measured 39 inches in circumference; the structure was of hard bone, with innumerable cysts within, lined by a membrane, and filled with arterial blood, of which one cell alone contained above a pint.

Now this kind of tumor is supposed to consist of a diseased condition of the capillary vessels, of the nature of the erectile tumors, or aneurism by anastomosis, the pulsation being occasioned by these vessels, or by the effused blood in the cells, and the disease is ultimately fatal by ulceration and hæmorrhage and irritation. Breschet, in describing the disease, doubts if it commences in the vessels, or in the osseous structure, and supposes that it is a further stage of scrofulous enlargement: which, of course, is nonsense, as a pathological history.

Such, then, being the view taken of these tumors, the practice has been sometimes in accordance with it, and the tying of the main artery has been recommended and practised. One case in the tibia is said to have been cured by Lallemand; but so short a time had elapsed after the operation, that it is unsatisfactory as a proof of cure. Another, and one of the best examples, is that which I have already given of Dupuytren's, in which case he tied the femoral artery in 1819, and the tumor is said to have nearly gone away; it returned, however, and grew to an immense size, though without pulsation, and was amputated in 1826, when its structure was found to have been such as I have related to you.

Now that such a kind of cystic tumor, containing blood, and sometimes pulsating, does really exist, there can be no doubt; and I have therefore placed it before you as a separate species of osteosarcomatous tumor, in deference to the curious nature of the subject. But I cannot bring myself to believe that it is really an erectile tumor of the bones, like nævi or aneurism by anastomosis; but I am inclined to believe that it is a form of fungus hæmatodes, singular and important, doubtless, but not a separate disease. Very many of the published cases are little different from this humerus with coagula of blood, amputated by Mr. Babington, though without pulsation, and without distinct membranous lining to the cavities. Many tumors of the bones, which pulsate most distinctly, so as to be easily mistaken for aneurisms, are evidently of medullary and hæmatoid character, like the similar tumor of soft parts, and I have seen the artery tied for such tumors. An excellent case of this kind was published by Mr. Guthrie, which was believed by Sir A. Cooper and Mr. Thomas to be aneurismal, Mr. Keate and Mr. Guthrie having some little doubt of the nature of the tumor. The common iliac artery was tied, and the tumor for a time disappeared nearly, but was fatal in six months, and proved to be fungus medullaris of the innominatum. So also with regard to aneurismal cystic tumor in a case of Dupuytren's, related by Breschet, in which the limb was amputated, it is expressly mentioned that the lateral ligaments of the knee-joint were partly "scirrhous and partly carcinomatous;" and in many others, both of Breschet's and Handyside's cases, it is quite evident that there was the distinguishing structure of fungus medullaris and hæmatodes, in which there happened to be cysts formed, and some of them contained blood and bloody serum; circumstances common in all malignant tumors. If, then, you meet in practice with elastic tumors of the bones, some of which pulsate, and which contain blood in cysts, you are, I think, to regard them as malignant, and instead of tying the artery, the influence of which at the best is but temporary, you ought if possible to remove the affected part; although even this operation, performed for tumors exactly such as Breschet describes, is an uncertain one. For instance, one of the cases quoted both by Breschet and Handyside, is one related by Scarpa, in his work on Aneurism, who amputated the thigh of a young man for a pulsating tumor of the tibia, produced seven years previously by a blow from the horn of an ox. The tumor contained blood coagulated in cavities, mixed with fragments of bone in a structure like the spleen, the original structure being destroyed by what almost every one in this country would call fungus hæmatodes. After five years of good health, pain in the stump prevented his wearing his wooden leg, and the stump enlarged into what is called by Scarpa a large aneurismal pouch, which pulsated and crepitated on being handled, and extended even behind the loins; and which was found to be a large bag, of which the periosteum formed the sac, and which reached up to the trochanters.

Still more let me advise you not to meddle with such tumors in the same bone, near the tumor itself; for you may meet with the most alarming and fatal hæmorrhage, and the disease is sure to return, from the extent to which the cancelli are affected. Mr. Liston has published the case of a boy with a tumor of the scapula of this aneurismal cystic kind, though not pulsating, in which he attempted the re-

moval of the diseased portion of the bone, but, accidentally cutting into a large cyst, there came out an immense gush of arterial blood, mixed with large coagula, as if an aneurism were opened; and the boy dropped down nearly lifeless. Mr. Liston, however, rapidly cut the tumor open, and felt the stream of blood so as to stop it, and then cut off the tumor, tying all the large vessels which supplied it. The cicatrix soon became a bleeding tumor, with hæmorrhage from time to time, which carried off the boy; the removal of the remaining portion of the scapula and part of the clavicle being proposed by Mr. Liston, but not acceded to by other surgeons; and on examination, all the remaining cancelli of the bone was found in the same diseased cystic and hæmorrhagic state as that which had been removed by the operation.

Such, then, would probably be the usual result of such an operation for the removal of the tumor by a section of the same bone, whether it be of an erectile nature, as Breschet supposes, or a modification of fungus hæmatodes, as I believe it to be.

We now come to the consideration of the acknowledged malignant diseases of the bones, which are the same as those of the soft parts—viz. cancer and fungous diseases. Both of these genera may either originate in the bones or may spread to them by contiguity, as when a cancerous ulcer of the breast affects the sternum or ribs; but the fungous diseases less frequently extend to the bones from the neighbouring textures. There is a great difference between the two genera in this respect: that fungus hæmatodes and medullaris often appear in one or more bones, while no other organ or texture of the body affords evidence of the contamination of the whole system—but cancer has never been observed, I believe, by any one to affect the osseous textures primarily; it has always made its appearance in some other organ, as the breast or uterus, before it has been noticed in the bones: such, at least, is the concurrent testimony of not less extensive experience than that of Sir Astley Cooper, Sir Benjamin Brodie, and Mr. Travers.

III.—3 Cancer is shewn in the bones by a softening of their texture and absorption of the phosphate of lime, and the formation of somewhat larger cells than natural, in which there is a bloody, pulpy, or semifluid substance; in which state they are soft enough to be cut by the knife. At a later period, generally the bone is found to have the peculiar gristly appearance of scirrhus by deposition of cancerous matter in the cancelli. A woman was under my care for cancer of both breasts, with scirrhous tubercles in the skin, who complained for some months of pain in the cervical vertebræ and inability to use the muscles of the neck; and in several of the vertebræ I found the pulpy alteration I have described. In Sir B. Brodie's Work on the Joints and Spine, you will find the case of a lady who had scirrhus of the breast, and who was seized with sudden paralysis and loss of sensation as high as the navel; and on her death, two months afterwards, several of the dorsal vertebræ were found in the soft state and gristly condition, without phosphate of lime, which mark the more advanced stage of the change. There is a woman in the hospital at present, partly under my care, who had her breast removed six years ago, and in whom some scirrhous tubercles and enlarged axillary glands have made their appearance within the last year; who has for several months lost the sensation of the lower part of the body, and all power over the lower limbs and abdomen, and the rectum and bladder, with alkaline urine, and such violent pain along the spine and in all the paralysed muscles, which are almost always contracted with force, that her sufferings are very great; and in whom I am inclined to believe there is a similar scirrhous change, unless her symptoms arise from some disorganization, possibly a scirrhous tumor, in the membranes of the spinal marrow itself. The cancerous disease is most frequently observed, however, in the cervix femoris, and the softness produced by the disease makes the bone bend or break from slight causes, just as it does from the simple atrophy of old age, which has been before described to you. Several cases of this kind have been published in the Medico-Chirurgical Transactions and elsewhere, and they are often seen with deep-seated pains, like those of rheumatism. Here are some preparations from a woman who died in the hospital with hæmoptysis, arising from cancer of the lungs and bronchial glands, and who had also cancer of the kidney and the other renal capsule, and of the uterus. She had suffered for a month before her death from pain in the hip, though no fracture was perceived. You may see, however, a considerable cavity in the bone by the absorption of the cancelli, in which cavity fluid existed, with pulpy substance and scirrhous matter in the head and lower end of the bone. Here is another fractured cervix femoris, from a patient of Sir Benjamin Brodie's, who had had her breast removed for cancer, but the disease reappeared some months afterwards in the cicatrix, and then pain of a very severe character took place in her hip and knee, increased by pressure; and before or after

death the bone gave way, in consequence of its softened condition. Sir Benjamin Brodie once saw the clavicle break from the patient turning in bed, with the same disease.

It seems, then, that the changes are very like those of mollities ossium, softening and formation of bloody cells, with flexibility and frangibility of the bones, and severe deep-seated pains, and occasionally a deposit of soft substance like scirrhus is described. May not some of the supposed cases of mollities ossium, which are very imperfectly described in general, have been in reality cases of cancer of the bone? This is a question that has sometimes suggested itself to me from the description of the cases; but I have never seen such a disease, and cannot, therefore, pretend to determine it.

Cancer generally evinces itself in the way that I have described in the cancellous structure, and seldom affects the periosteum so as to appear in the form of a tumor: sometimes, however, scirrhous tubercles are formed externally in the periosteum, though it is then also usually by absorption of the shell of the bone allowing the disease to proceed externally from the cancellated structure. Mr. Salter, in a description of a case of fractured neck of the thigh-bone from cancer, remarks that the muscles around the bone were consolidated into a cartilaginous mass, with bony spiculæ within it, so as to form an external tumor; an account which looks as if the morbid action had extended from the bone to the muscles.

When a cancerous tumor extends its ravages by contiguity to a bone, the bone ulcerates, and granulates, and bleeds, and shoots out a fungous growth of the same character as cancer of the soft parts. Here, for instance, is a preparation from a patient of mine, with cancer of the skin of the face, which affected the bones of the cheek, and made an opening through the bottom of the orbit leading through the dura mater into a large abscess of the brain.

Where the surface of a bone is thus affected, it may be right to remove as much of it as can be done. I should have performed such an operation not long ago, for a large cancerous tumor of the skin of the chest, affecting the sternum by contiguity, and not yet injuring the health, had not the man got frightened at the proposition of any operation being undertaken. Of course, if cancer only appears secondarily in the bones, there cannot be any prospect of cure from any thing that can be done medically or surgically; nor do such cases present opportunities for operation. When a bone is fractured from cancer, it sometimes unites sufficiently for the patient to walk about with a stick, but he is not sufficiently healthy for more than soft union to be produced, and it is not often that even this has been observed.

III.—4. The fourth genus, or *fungous disease* of the bone, is nearly like that of the soft parts, and consists of the same three species—the *medullary tumor*, or *fungus hæmatodes*, or *melanosis*. These are much more frequently observed than cancer, and differ from that disease in sometimes forming very large tumors, and in often occurring, as I before remarked, in the bones first, or while no disease can be observed elsewhere. The tumors of this genus sometimes present either species in a well-marked form; somtimes they are intermixed in the same tumor, but the exact character can often scarcely be made out without dissection, though the tumor under examination may evidently belong to this genus of fungous tumors. They occur in persons of all ages, in the bones as well as elsewhere. Sometimes fungus hæmatodes is seen in quite a young child, especially in the face; more frequently both fungus hæmatodes and medullaris are met with from the age of twelve to thirty; after which the medullary tumor and melanosis are more frequently seen than the other species. Mr. Travers has observed that fungous tumors are most common in the flat bones; but certainly I have myself seen them just as often in the long bones, as the femur and tibia. All the three species occur in all the structures of the bone, the periosteum, the cancelli, or the outer shell.

4. A. Here is a preparation of *melanosis*, which is much the most rare, and I have only myself seen it, like cancer, after some other part has been attacked by the disease, though I do not assert that it does not occur primarily in the bones. When melanosis does take place, it differs from the other two species in being almost always in spots or small tubercles in the cancelli; it is occasionally seen, however, in globular masses on the outside of the bone, as in a plate of Lobstein's work. Very often it is mixed with the other forms of fungous disease. For these several reasons I shall take no separate notice of it further than these observations.

4. B. *Medullary* or *encephaloid* tumor is very frequent, and presents a great variety of appearance, from a soft white diffluent mass, like brain, or with a few cells of gelatinous fluid, and containing only a few spiculæ of osseous substance, to a mass of solid bone, with hardly any medullary matter.

B. *a*. Here is a good example of the solid form, which occurred in the tibia of a boy, 14 years of age, which was amputated in this hospital, at which time the

knee joint was fourteen inches in circumference, tense and shining, and with tortuous veins on its surface. Some parts were hard, others soft and yielding to pressure, and the joint was unaffected, and kept usually half bent. The section shews you the exterior of the tumor, with some cysts of fluid, and a thin stratum of white medullary matter, the epiphysis and cartilage being quite sound, and the centre of the tumor of solid bone below, partly in the cancelli, and partly on the outer surface of the shaft, chiefly in a radiated form. In this case pain occurred in the bone in April 1831; a tumor appeared in six weeks' time, and it was amputated in the following September by Sir Benjamin Brodie, and the boy died in the ensuing spring with fungus medullaris and hæmatodes in the lungs. Here, again, are several sections of another tumor of the thigh-bone in a boy of about the same age, a patient of Mr. Babington's, which is, you observe, close to the knee-joint, and equally solid with the last, with a thin layer of medullary substance, but no cysts. This boy died in consequence of inflammation of the veins after a puncture with the lancet, and there was no disease apparent elsewhere; so that the amputation, which we proposed, might have been successful.

I well recollect that, in external feeling and appearance, there was no one circumstance that could enable one to distinguish these tumors from a fibrous osteo-sarcomatous tumor, previous to dissection, though the youth of the patients made their malignancy very probable.

B. *b*. Here, on the other hand, is a medullary tumor of a very soft kind, in the thigh-bone of a young woman, under my care, in the present year, which measured eighteen inches in circumference, and extended over so large a portion of the bone, that I was obliged to amputate it very high, in order to get above the diseased parts. It entirely surrounds the femur, from the condyles upwards, and originates in the periosteum, the shaft of the bone preserving quite its natural appearance, and the cancelli, on a recent examination, appearing perfectly healthy, scarcely even more vascular than usual. Yet, although periosteal, this medullary tumor is not firmer than brain; it has no bony spiculæ whatever in it, and the only formation of new bone is a small solid portion closely attached to the back of the femur, and about a third of an inch thick; and this new bone is seen exposed, by the section having opened a large cavity, containing several ounces of sanguineous serum; and there are some smaller cells elsewhere, and one or two points of the medullary substance are red and bloody. The malignant nature of the disease is evinced by the neighbouring muscles and fascia being implicated, so as to form a part of the diseased structure, and by some separate medullary tubercles being found in the vasti muscles, with intervening healthy substance. This tumor had been growing for about eighteen months, and its feeling and mode of growth, and the appearance of the patient, shewed that it was most probably medullary. She died soon after the operation, with suppuration in the cancelli of the upper part of the bone, and inflammation of the small veins; and, on examination, I found several tubercles of a medullary nature in the lungs.

Now this medullary tumor of the bone was so large and soft, that it might easily be taken for a tumor of the soft parts, only adherent to the bone. On the other hand, a tumor of the soft textures, bound down to a bone by fascia, even if not adherent, may give precisely the appearance of being a tumor of the bone itself; for instance, a young man fell under Mr. Travers's observation, whose arm was amputated at the shoulder-joint for what was supposed to be a medullary tumor of the humerus, but which was only situated among the muscles; the disease returned in the axilla and side of the chest.

This preparation is a portion of tumor, quite soft and without any bone, which was removed from the cranium by Mr. Ewbank, when I was house-surgeon of this hospital; but he was less fortunate than Sir Everard Home, as the disease returned in a few months, and spread through the bone to the dura matter, and terminated fatally. Here, again, is a small portion of a very large tumor of the same kind, which was four times operated on, but was ultimately fatal, in the head.

Now these cases, and an examination of the morbid specimens before you, are quite sufficient to demonstrate the origin of medullary tumor sometimes from the periosteum, which occurrence is denied by some pathologists; and some of them shew you also that solid bone may be deposited in the cancelli and interior of the tumor, by what may be termed a healthy action of the periosteum and membrane of the cancelli, unmixed with morbid deposits of fungous structure. Nor is this observed only in the harder long bones; for instance, I recently met with a case described by Mr. Travers, in which there was a medullary tumor on both sides of a rib, in a child, the outer of which had been punctured as an abscess, without any communication between the two tumors, though the bone being partially absorbed, they would probably soon have formed one tumor; and I have seen this circumstance with regard to the cranial bones.

At the same time medullary substance is often formed in the cancellated structure first, and subsequently makes its way by absorption through the bone, and suddenly increases or produces symptoms. An instance in point was published not long since by Dr. Malden, of a man who was a month under the care of the surgeon in the Worcester Infirmary, for inflamed eye, without suspicion of other disease; then he was suddenly seized with stupor and paralysis of the side opposite to the inflamed eye, and died in five days; and on examination a white tubercle, of the size of a walnut (medullary, I presume, from the description), was found in the diploe, the bone being absorbed on both sides, so that the tumor was in contact with the eye and with the dura mater, and communicated with an abscess holding three ounces of pus, in the anterior lobe.

If a medullary tumor be left to itself, it becomes a source of great irritation, sometimes from ulceration and sloughing and hæmorrhage, by which the patient may be carried off, or from the effects of which he may rally for a time. To shew such a course, let me describe a case which came under my care in the hospital. A man, twelve months before I saw him, felt some pain and stiffness about the knee, aggravated by warmth, and soon afterwards a swelling appeared above the joint. Six months afterwards the kick of a horse made the tumor increase more rapidly, and aggravated his pain, though he still continued to ride as a groom. Now he became emaciated, sallow, and restless, and a part of the tumor inside grew very quickly, and softened and threatened to ulcerate, and gave such pain, that, at his urgent request, I punctured it, and let out some serum, with brain-like substance mixed with it, and the probe could pass in all directions through the tumor, touching some loose spiculæ of bone, and striking the solid shaft in the centre. Amputation was refused, and though relieved from some of the pain, the tumor sloughed in a fœtid manner, the inguinal glands enlarged, he became jaundiced, and I was obliged in my turn to refuse amputation, which we all considered too late; and he left the hospital to die at home, as he thought, in order that his body might not be examined. I continued to see him, however, and he went on with some calomel and opium, and sarsaparilla, which I had previously given him; and in a few days the whole inner half of the tumor sloughed out, so as to form a foul cavity in the ham, in which the fist might be buried; then the wound granulated and contracted and filled up, and he became quite fat, and able to walk about. Six months afterwards, however, the outer part of the tumor began to enlarge and soften, and he again became sallow and emaciated; and I conclude the disease must have been fatal (though I here lost sight of him), probably with a return of sloughing and bleeding and irritation, till the system sunk under it. Such at least is the usual termination of a medullary tumor of the bones, or any other texture; and the rapidity of the growth of the tumor, and the probability of return of the disease, seems to be in proportion to the quantity of medullary substance, and the absence of ossific deposit.

[We are obliged to postpone what remains of this lecture till next week.—Ed. Gaz.]

CLINICAL LECTURES on MEDICINE,

Delivered at the Meath Hospital, Dublin,
Session 1837-8,

By Professor Graves.

Lecture VII.

On the Pat' o'ogy and Treatment of Syphilis.

Gentlemen,—The pathology and treatment of the venereal disease have engaged the attention of our ablest men since the days of Hunter, and have of late years, as you are all aware, undergone considerable modification and improvement. Still, however, much variety of opinion exists respecting both these subjects, as may be proved by the following facts: in this city, for instance, Mr. Colles and Mr. Carmichael profess opinions very different from each other, and the high reputation these distinguished surgeons enjoy, ensures to each a numerous host of followers; we have here, consequently, two rival schools, whose teachers disseminate opposing doctrines. This want of fixed opinion is felt in London as well as Dublin, and displays itself in a not less marked manner amongst the practitioners of Paris, Hamburgh, Vienna, and Berlin. If you compare together the modes of practice pursued by that highly instructed and intelligent class of medical men—the surgeons of the British army—you will find the same want of unanimity, and consequently the inmates of the venereal wards of one regiment are often treated in a manner the very reverse of that pursued by the surgeon of the other regiment stationed in the same barrack; of which I have seen some striking instances in the Dublin garrison. Matters are quite as bad in the Prussian army. In a letter which I lately received from Doctor Robert Froriep, the distinguished pathologist of Berlin, he says, "I have taken advantage of the vacation to examine the Medical Re-

ports of the Army, having obtained the kind permission of the physician-general, Doctor Lohmeier, for that purpose, but I could not make out any thing likely to assist you in your researches; in fact, these documents furnish *data* apparently the most contradictory. Thus, one report praises the mercurial, and another the non-mercurial treatment; while in almost no case do we find the symptoms, treatment, and results, detailed with sufficient precision to enable us to arrive at any thing like satisfactory conclusions."

In the following lectures I do not propose to solve the difficulties which embarrass this important question, neither do I come forward as an advocate on either side; my time is too much occupied to allow an examination of this subject in all its details; and without such an examination it would be premature, nay impossible to arrive at a satisfactory conclusion. My object in touching on the matter is less ambitious; and I come forward merely as a contributor of materials, chiefly derived from German sources, and partly my own; which materials may perhaps prove useful to others employed in the elucidation of this important subject. From an extensive correspondence with practitioners in various countries of Europe, I find that every where a great division of opinion exists; and we have reason to believe the same of North America. In the latter country, however, the non-mercurialists are gaining ground, as appears from articles published in the American journals. Under these circumstances, and in this embarrassed state of opinions, some attempt ought to be made to obtain more accurate data. If the matter was taken up, as its importance deserves it should be, by some medical body or association of eminence, individuals might be encouraged to inspect the chief hospitals of Europe and America, and thus obtain accurate information. Were application made, from a proper quarter, to the heads of the medical department in the English, French, Prussian, and Austrian armies, it would no doubt elicit much important matter: such an application, coming from the Medical Section of the British Association for the Advancement of Science, could not fail. Until some public body, or some enterprising and zealous individual, collects from every quarter that information which is so easily attainable on the spot, but so difficult to acquire at a distance, this great practical question must still remain unsolved; for its solution will be only then possible when the results of the opposing methods have been ascertained and contrasted, in various climates and among various races of mankind.

It is allowed by all continental writers of celebrity, that British practitioners have the credit of having been the first to point out the benefit of the non-mercurial treatment, in many cases where mercury was supposed to be necessary. Matthias deserved great praise for the discrimination and judgment he evinced in distinguishing the effects of mercury acting injuriously on the constitution, from the effects of the venereal poison.

Mr. Carmichael, of Dublin, was, however, the first who materially improved this important practical branch of our profession, and taught, in a clear and scientific manner, when mercury ought or ought not to be exhibited. Mr. Green, of Bristol, has published, in the second volume of the Transactions of the Provincial, Medical, and Surgical Association, an excellent *résumé* of the history and progress of opinion on the non-mercurial treatment, and has added many interesting cases observed by himself. From what he has seen and read he draws the following inferences: that every form and stage of venereal (except iritis) can be completely and better treated without mercury than with it; that in some cases, mercury not only fails altogether to cure, but aggravates the disease, and therefore is not a specific; and what have been considered as some of the worst secondary causes of syphilis, result from mercury itself, from the very means used to cure the disease. Dr. Thompson, of Edinburgh, zealously advocates the non-mercurial treatment, and supports his views by 400 cases treated without mercury.

Mr. Green thinks Mr. Abernethy's test between true syphilis and pseudo-syphilis (namely, that the former requires mercury for its cure) erroneous.

Mr. Rose, surgeon to the Guards, says, he succeeded in curing all ulcers on the parts of generation, with the constitutional symptoms to which they give rise, without mercury. He treated 120 cases without any unfavourable result.—*Med. Chir. Trans.* vol. viii.

Mr. Guthrie treated nearly 100 cases of primary sores without mercury; and thinks it an established fact, that every kind of ulcers on the genitals is curable without mercury—thinks, in some cases, a gentle course will expedite the cure, but does not consider it a specific for the venereal.

Dr. Thompson remarks, that in his cases treated without mercury, there were not any of those deep and foul ulcers of the skin, of the throat, of the mouth and nose, or the painful affections of the bones, which are stated by every writer on syphilis, as the general products of that disease.

Dr. Hennen treated 105 cases of primary sores without mercury; secondary symptoms followed in 11 cases: all were cured without mercury, except one obstinate and anomalous case.

Report from the Army Medical Department, from December 1816 *to December* 1818.—There appear to have been treated, for primary venereal ulcerations on the penis (including not only the more simple cases, but also a regular proportion of those with the most marked characters of syphilic chancre, as described by Hunter), 1940 cases; that, of these 1940 cases, 96 have had secondary symptoms of different sorts; of these 96 cases of secondary affections, mercury was had recourse to in 12, for various reasons, as stated in the report. In the 1940 cases of primary symptoms, mercury was used in 65, for reasons also assigned. If we deduct the 65 and 12 cases in which mercury was used, from 1940—1863 cases remain *completely* cured *without* mercury. The average time required for the cure of primary symptoms without mercury, when bubo did not exist, has been 21 days - with bubo, 45. Average period for cure of secondary symptoms without mercury, has been from 28 to 45 days. In the same period, 2827 cases of primary symptoms were treated with mercury: secondary symptoms occurred in 51 of them. The average period for cure of primary symptoms without bubo, was 33 days—with bubo, 50 days; and for the cure of secondary symptoms, 45 days.

Mr. Green treated 100 cases without a particle of mercury, either internally or externally. The primary sores were treated with sedative and astringent lotions, or simple ointment; all these sores possessed some of the characters of the true Hunterian chancre: from 14 to 30 days was the time in which they were generally healed. One case of chancre resisted all applications for four months, till the person was removed to the sea-side, where it was healed in three weeks. Of these 100 cases, buboes supervened in 16: of these, 6 only suppurated. Constitutional affections, of one kind or another, followed in 9 cases: these were, cutaneous eruptions, papular in 3, pustular in 2, vesicular in 1, vesicular and scaly in 2. These eruptions, at their commencement, were generally accompanied by pains in the limbs, and more or less fever. One of the cases of pustulæ closely resembled small-pox—has generally seen this particular form occur in persons of strong constitution. The vesiculæ and scaly eruptions occurred in delicate persons, and were very obstinate. Sore throat occurred in 4 cases; in 3 conjoined with eruptions. Periostitis occurred in 2 cases, which yielded to counter-irritation. There was not one case of iritis.

In 154 cases, treated by Dr. Thompson, without mercury, iritis followed in 1. In 417 cases, similarly treated by Dr. Hennen, iritis occurred only in 2.

Mr. Green thinks that the use of mercury in primary symptoms should be given up altogether; but that in some cases of *secondary* it may be of use. From a comparison of facts, primary sores are sooner cured where mercury is not given. As far as the Army Medical Reports go, secondary symptoms followed more frequently where mercury had *not* been given, but they were not so severe as those which occurred after mercury had been given. The cases, in which he thinks mercury of use, are those in which the symptoms get into an indolent condition, and become a chronic disease. The superficial ulceration of the throat, which he considers truly syphilitic, frequently becomes changed by mercury into the deep excavated ulcers of the tonsil.

There can be no doubt, gentlemen, that mercury may be given to a person previously healthy, in such a manner as gradually to undermine the constitution and destroy health; of this the workmen employed in quicksilver mines afford a melancholy example: and it is a striking and remarkable fact, that the *mercurial cachexy* thus produced, resembles in many respects the *venereal*. Emaciation, night sweats, pains in the bones, nodes, and osseous caries, cutaneous eruptions and ulcers, redness and ulceration of the throat, loss of appetite and debility, are common to both. It is quite certain that these cachexies, when pure and unmixed, may, by an experienced examiner, be distinguished from each other with facility; but the case is widely different when they co-exist in the same constitution, each modifying and deteriorating the other. These two cachexies, combined in the same individual, occasion, according to the predominance of either, and the simultaneous and sinister presence of a weak, scrofulous, or scorbutic habit, those endless varieties of deplorable suffering which we are so often called on to witness in cases, injudiciously, ignorantly, or negligently treated. I must refer you to authors for a more detailed and accurate account of the ill effects of mercury. Dr. Hennen has written with great clearness on this subject: he concludes by remarking, "but the most troublesome of all its effects, is the phagedænic ulceration, which it often induces both in chancres and open buboes; and the disposition to fresh ulcerations of a spreading and intractable character, which it gives rise to in parts where the skin had not been previously broken; in the throat most severe ulcerations are excited by it, erosions of the gums and palate are produced; and the papulæ and other eruptions of the skin, which so often appear as a secondary form of the disease, are frequently exasperated into open ulcerations. I have not seen a single case of ulceration succeeding to a cutaneous eruption, in the military hospital, since the non-mercurial treatment

has been adopted, except where mercury had been long and irregularly tried."

The example set by British surgeons, was soon extensively followed on the continent, and many reports of the success of the non-mercurial treatment were published in France; several of these have appeared in the English periodicals; and some important documents of this nature have been lately cited by Mr. Carmichael, in a paper published in the 12th volume of the Dublin Journal of Medicine. As you can all refer without difficulty to French publications, I shall not detain you by quoting their contents, but shall at once proceed to submit to your consideration a translation of certain German writings, which contain important data connected with our subject, but which are not easily procurable, and cannot be understood without a very accurate knowledge of the German language and German pharmacy.

To the first document I attach great value, having myself witnessed the progress of the treatment in the splendid and admirably-arranged hospital at Hamburgh, under the care of that able surgeon, Dr. Fricke, whose assistant, Dr. Günther, took all the cases, and afterwards tabulated the results. Of course I cannot do more than present to you the general plan of treatment adopted, and the general conclusions arrived at. In the work itself numerous examples are given of each variety of primary and secondary affection, and the details of the treatment are accurate and full. As the non-mercurial plan excited much interest among German physicians, its details were watched with the most scrupulous accuracy, both by the medical men of Hamburgh, and by many who came from different parts of Germany to witness the progress of so important an experiment. That the details and results have been given, by Drs. Fricke and Günther, with the strictest fidelity, I know, both from what I myself observed, and from what I heard from Dr. Oppenheim and others.

I shall, in the first place then, lay before you copious extracts from Dr. Fricke's work, and afterwards communicate information I have recently obtained from this eminent surgeon, on this subject.

After I have laid before you the later German authorities in favour of the non-mercurial treatment, I shall proceed to speak of those who bear testimony against it.

From Fricke's Annals of the Surgical Department of the General Hospital, Hamburg.

TREATMENT OF SYPHILIS, DURING THE YEARS 1824, 1825, 1826, and 1827. By Dr. GÜNTHER, Assistant Surgeon.

"The treatment of syphilis in our hospital may be divided into two periods. During the first, mercury was employed as the chief remedy; during the second, the disease was treated after the non-mercurial plan. The former comprises, with males, a space of eighteen months and a half (from January 1824 to July 1825); with females, of twenty-two months, (from January 1824 to October 1825). The latter includes, with males, a period of two years and five and a half months; with females, of two years and somewhat more than two months."

First Period.

Treatment of Syphilis with Mercury.

I shall now communicate the principal facts and results of this mode of treatment, as the profession can have no particular interest in the more minute details, which can be useful only in the way of comparison. The forms of disease observed during the first period, may be seen in the annexed tables. On looking over them, a considerable difference will be seen between them and those of the second period: syphilis having exhibited itself in a much more malignant form in the first period. Nocturnal pains, caries of the nasal, palatine, and other bones, obstinate and extensive cutaneous eruption, general lues, syphilitic cachexy, &c. were among the ordinary phenomena; while in the second period they were of rare occurrence, and observed only in those who had been subjected to long and injurious courses of mercury.

If we compare the forms of disease occurring in the same individual, at different times, before and during the first period, we shall not unfrequently perceive a certain gradation from a favourable to an unfavourable constitution of disease; that which commenced with superficial ulcers of the genital organs subsequently appeared as bubo, then as ulceration of the throat, next as an extensive cutaneous eruption, which often gave rise to ulcerations, then harassed the patient with nocturnal pains, nodes, caries of the bones of the face and loss of the hair until it terminated in syphilitic cachexy, general and incurable lues, consumption, emaciation, and dropsy.

The mode of treatment employed during this first period was various, and regulated by the peculiarities of each individual case. No undue predilection was shewn for any particular preparation of mercury. The soluble mercury of Hahnemann was chiefly employed, in doses of a grain twice a day; in a great many cases calomel was used in the same proportions. Corrosive sublimate was given in solution (gr. iij. ad ℥vj.) generally in combination with a little opium or with the decoction of columbo; a table spoonful three times a day. In obstinate cases calomel and corrosive sublimate were administered alternately, in the form and

doses already mentioned; and this mode of administration was looked upon as very powerful and efficient. On one occasion calomel was given in large doses (ten grains); and 33 cases were treated with mercurial frictions, after the manner recommended by Rust. The latter, which were employed in the cases of 13 females (in some individuals twice,) were had recourse to only in obstinate and extensive forms of the disease. When syphilis was attended with distinct inflammatory symptoms the antiphlogistic treatment was put into operation before mercury was administered.

With respect to the duration of treatment a remarkable difference will be perceived on inspecting the tables of both periods. I have taken an average of the number of days spent in hospital, as well by patients labouring under peculiar forms of syphilis, as by the general class, and added it to the tables. The relative proportion of this cannot be always easily stated, for no general law can be deduced from a few cases; but, on comparison, a difference in favour of the non-mercurial plan of treatment is readily perceived.

With regard to the certainty of cure, so far as the mercurial treatment is concerned, we must say, with many of our unprejudiced colleagues, that we are convinced by bitter experience that syphilis very often returned, in the secondary form, after the most cautious use of mercury, the most careful selection of the preparation, the strictest attention to diet, and a proper observation of precautionary measures. Of 573 patients, treated during the first period, 165 (*i. e.* nearly one-third,) were attacked with secondary symptoms. All these were treated with mercury for the primary symptoms, although, it is to be observed, the smallest portion of them had been under our care. Of those patients treated during the second period, who were attacked with secondary syphilis, by far the greater portion had, at an earlier period and before admission, or while in hospital, used mercury for the cure of the disease. Many patients, in whom the disease was supposed to have been eradicated, came back, (particularly after the use of mercurial frictions,) with caries of the bones of the face; some of these were afterwards cured without mercury, others are still under treatment.

On examining the bodies of those who died while under treatment, particularly during the use of mercurial frictions, and while the mouth was affected, we did not find the parotid, sublingual, or pancreatic glands enlarged; they were, however, harder than usual, and, when slit open, had in a remarkable degree the unpleasant odour attendant on salivation. In one case the submaxillary glands were enlarged, but, with the exception of some slight induration, otherwise unchanged. In the case of a young woman, who had frequently used mercury, and who died twenty-two days after a protracted course of frictions—on boiling some portions of the thigh-bone (the head, neck, and trochanter) and of the tibia for an hour in water, we found somewhat more than half a drachm of reguline mercury. In two or three similar cases, where so much mercury had not been employed, we could not detect any.

Second Period.

Treatment of Syphilis without Mercury.

When this mode of treatment was introduced into our hospital by Dr. Fricke, he at first submitted only a small number of patients to it, and selected chiefly those whose future prospects depended on their being cured in the speediest possible way. Having afterwards discovered, contrary to his expectation, that the disease was cured more rapidly in this way, and relapses much fewer and slighter, it was extended to all cases, with such modifications as experience suggested.

At this present time (February 1828), after a trial of two years and a half, and the successful treatment of more than a thousand patients, the results of this treatment have proved so favourable, that there appears no reason for lightly abandoning it, or returning to the former plan of treatment. As already stated, patients are cured in a much shorter time than before, and leave the hospital with much healthier looks. All the unpleasant phenomena attendant on salivation no longer harass them. Formerly, notwithstanding the greatest attention and cleanliness, it was impossible to remove the foul smell from the venereal wards, or to keep the rooms or beds clean; the air was tainted with the offensive odour of salivation and syphilitic caries; and filth was the order of the day in all the wards tenanted by patients under full salivation. At present there is not a trace of this air in a ward containing constantly 60, 70, and sometimes 100 patients; and the venereal department of the hospital rivals the other divisions in purity of air and cleanliness. Syphilis, too, seems to become gradually more simple; at least it never appears in the same malignant form as before, where little or no mercury has been used. As every medical man is allowed to visit the hospital, any one may convince himself of the truth of these statements.

From the strict surveillance over prostitutes observed by the police, the attention and experience of the surgeons appointed by the government to inspect them, and from the circumstance that such females come to our hospital for the relief of all diseases under which they may happen to labour, we are

enabled to keep a strict control over their diseases. Those who live in the town, constituting three-fourths of them, under the jurisdiction of Hamburgh, and those who live in the suburb named Hamburgerbery, are examined twice a week by two government surgeons. Every female is obliged, each time, to bring a book, in which her state of health is entered. Those who are found diseased are immediately sent to hospital. Unfortunately, we cannot exercise the same control over males, and with the same accuracy and precision. A large portion of the males under our care leave Hamburgh, and many of them, when they get fresh infection or secondary symptoms, apply to other physicians of this city, and are generally treated with mercury. Hence, of course, in such cases, the accuracy of the result is disturbed and rendered uncertain. Many who are cured and remain well, do not keep the promise which is exacted from all who are dismissed cured, namely, to let us see them again. Some, in fine, lose patience, and leave the hospital before their cure is entirely completed. This, however, has not occurred for the last half year. All these circumstances combined render it extremely difficult to ascertain the truth in each individual case. There remains, however, a number of male patients whom we keep constantly under observation.

General Treatment.

Four conditions we endeavour to fulfil, viz. cleanliness, rest, a strict diet, and (in a therapeutic point of view) an antiphlogistic plan of treatment.

Cleanliness is of the greatest importance towards a speedy and successful termination of the cure; several patients were cured by the use of warm baths and ablutions. On the other hand, a neglect of this precaution has been the cause either of the origin or of the deterioration of many forms of disease. On entering the hospital, all syphilitic patients, unless perfectly clean, are put into a warm bath. With women this is seldom requisite, with men almost always. The diseased parts, and those in the vicinity, are frequently washed with warm water. This operation requires to be looked after more carefully in men than in women, the latter being naturally more cleanly. Again, places on which ulcers, condylomata and exanthemata, are seated, the glans and prepuce in gonorrhœa, and all carious bones, are cleaned of pus, mucus, and dirt, by frequently washing, sprinkling, rinsing, and syringing with warm water. Pus is never allowed to collect on ulcers, or on the prepuce or glans in gonorrhœa. A most important rule is, to prevent excoriations, chancres, and condylomata, from coming in contact with the healthy mucous surface or skin; as for instance, in the angles between the carunculæ myrtiformæ and nymphæ, between the labia, between the testicle and the upper part of the thigh, &c. as in course of time not only the sound parts become excoriated or ulcerated, but also the disease protracted and often very much exasperated. We also take care to prevent excoriations, exanthemata, and condylomata, from forming in the angles and folds of the genital organs from the matter of gonorrhœa or ulcers. To accomplish this end we put pieces of linen or charpie, wet with spring water, saturnine lotion, or black wash, into each fold or angle, changing them three or four times a day, and sometimes oftener, according to circumstances. This attention to cleanliness is also of the greatest importance after the cure is finished, because the cicatrices are apt to become raw and turn into excoriations or ulcers when neglected. This has frequently occurred in patients discharged cured, who, on being admitted a second time, have been again cured by strict attention to cleanliness.

Rest is necessary, particularly during the first period, and where the disease exhibits an inflammatory character. Hence, all patients, on admission, are confined to bed. In women this regulation was enforced throughout: on the other hand, males were generally permitted, and with advantage, to walk about during the later period, where a chancre or opened bubo had healed up to a certain point and then become stationary. The reason of this difference between the treatment of males and females was partly this, because in the latter, the diseased parts are not so easily protected from contact with the sound skin or mucous membrane, from friction, or from becoming wet with pus, mucus, &c. Pregnant women were permitted to walk about a little.

With regard to *diet*, each patient at first received every day four ounces of bread, three pints of gruel, and six spoonfuls of vegetables, at noon; the latter varying according to the season of the year. They were not allowed to drink beer, brandy, or water, their common drink being thin gruel. As soon as the characteristic appearance of the ulcers began to vanish, or an improvement took place, the diet was gradually made more nutritious, according to the state of the constitution and the wants of the patient; and when matters went on favourably in this way, meat was allowed. We have departed from this rule in the cases of very weak individuals, and persons who had been debilitated by mercurial courses, allowing these a nutritious diet from the commencement. In the case of females, who seldom remained in hospital longer than three or four weeks, (some not more than fourteen days,) and who require less food than males,

the first kind of diet was generally continued until the termination of the cure; in males it was usually changed a fortnight or three weeks after the character of the disease began to improve. The appearance of those who were dismissed after a long stay in hospital, was that of men in perfect health, and (where the strict diet had not been continued too long) not at all deficient in bodily strength.

The *therapeutic* measures employed were by no means complicated, and have been latterly rendered more simple. At first every patient who could bear it, whether male or female, was blooded to eight, ten, or twelve ounces. Experience, however, has taught us that in most cases general bleeding may be dispensed with, and that the end in view may he accomplished in as short a time, and with equal success, by observing the rules already laid down. Hence venesection is at present confined to cases of plethoric habit or high local inflammation, and consequently not very often employed. In some peculiar forms of disease leeches were used. In cases of secondary syphilis, particularly where the disease came on after the non-mercurial treatment, venesection was occasionally employed. The treatment was generally commenced with the following medicine:—

℞ Sulph. Magnesiæ, ʒiss.; Aquæ Fœniculi, ʒviij. M.

Of this a table-spoonful was administered three times a day, or oftener, so as at first to produce several stools, and afterwards one during the course of the day. Occasionally a collection of bile in the primæ viæ, which sometimes occurred under the continued use of this mixture, required the administration of an emetic. The mixture was given to pregnant women, merely in such doses as to keep the bowels regular. In secondary syphilis the decoction of the woods and nitric acid were also employed. After a long and copious use of the laxative mixture, aphthous excoriations of a circular shape, and from three to four lines in diameter, were sometimes observed on the inside of the lower lip and the mucous membrane of the cheeks. These had a flocculent appearance, were painful, and surrounded with slightly swollen edges. Frequently they were combined with small tallow-like sloughs of the mucous membrane at the angles of the mouth, frequently with raw surfaces. Persons of a scorbutic or scrofulous diathesis were very subject to them. They were often very obstinate, and required the use of acid or astringent gargles, touching with solutions of caustic, and the omission of the laxative mixture.

In a few cases we have seen a more than usually copious flow of saliva after the use of nitric acid, frequently a slight increase in the cutaneous transpiration, or an increased secretion of saliva, after decoction of the woods had been employed for some time. Nitric acid was exhibited in the following form:—

℞ Acidi Nitrici, ʒss.; Syrupi Simplicis, ʒj.; Decoct. Avenæ, ʒxij. M.

Of this mixture a table-spoonful was given every second hour, and sometimes every hour. From eight to twelve ounces of the decoction of the woods were administered every day. Saponaceous baths were ordered for the sake of cleanliness, as also in some forms of eruption; in others, baths containing muriate of soda, or mineral acids, or corrosive sublimate, or (in cases of pains in the bones) caustic potass. Many kinds of lotions were also used for moistening the charpie and linen used in dressing the sores.

ON DEFORMITY OF THE CHEST IN YOUNG CHILDREN,

FROM DISEASE OF THE LUNGS.

To the Editor of the Medical Gazette.

Sir,

If you should consider the following remarks worthy of notice, the insertion of them in the Medical Gazette will much oblige

Your obedient servant,

George A. Rees.

5, Artillery Place, City Road,
Dec. 31, 1838.

There is a deformity of the chest met with in infants and young children, occurring in connexion with disease of the lungs, which, though not of very rare occurrence, I do not recollect to have seen described. The deformity consists in a depression existing at the line of union between the ribs and their cartilages, in consequence of which the arched form of the front of the thorax is lost, and a channelled appearance external to the sternum on each side produced.

Accompanying such deformity, there is an altered movement of the ribs in breathing, and there are well-marked symptoms of lesion of the organs of respiration; the infant suffers habitually from shortness of breath and a short dry cough, when attacked with any bronchial affection not in itself of a dangerous character — bronchial irritation, for example, to which they are peculiarly liable — the usual quick

breathing becomes hurried, the pulse much accelerated, the countenance assumes a livid hue, and the appearance of the child indicates a severe form of pulmonary disease.

The following is a very slight sketch of a case of this kind, which, though imperfect, will, I think, best illustrate the description, and serve as an introduction to the remaining remarks:—

James Goullee, aged eleven months, was brought to me in the month of April, labouring apparently under severe inflammation of the lungs; there being great difficulty of respiration—amounting to dyspnœa, acceleration of the circulation, pulse 122, short dry cough, lividity of the countenance, dilatation of the alæ nasi, &c. On applying the ear to the chest, I detected no indications corresponding to the severity of the symptoms; slight crepitation of a large character over the central portion of the lung alone being observable.

The parent informed me, in her history of the case, that the infant was born lively, and continued well and thriving to the age of two months, at which period it began to decline; shortness of breath and a cough, more or less considerable at intervals, having continued from that period, with occasional attacks resembling the present.

The child being undressed, I found the body emaciated, the abdomen tumid, and the chest presenting the deformity above described; but what struck me principally, as explaining the great difficulty of breathing in comparison with the slight *perceptible* disease of the lungs, was the altered movement of the ribs in respiration; at the moment of inspiration they being forced inwards instead of drawn outwards, and thus the size of the thorax transversely diminishing instead of being augmented.

For a time the little patient seemed relieved by the treatment adopted, but a fresh attack supervening in the month of May terminated fatally.

At a post-mortem examination I found, on opening the chest by cutting through the ribs a little posterior to their cartilages, a projection inwards, corresponding with the depression externally. The central lobe of the right lung, and a great part of the lower lobe over the left side, were converted into a dense, firm texture, sinking in water, of a purple colour, resembling most nearly lung having suffered from compression, after effusion in the pleura, or from chronic pneumonia. It corresponded pretty accurately with a drawing by Dr. Hope, in his work on Morbid Anatomy, given as a specimen of the effects of chronic pneumonia. There was also injection, but slight, of the bronchi; the pluræ were healthy; there were no tubercles. The abdominal viscera presented no marks of disease.

I have met with and examined four other cases of this kind within the last year, out of nearly 5,000 children seen by me at the Tower Hamlets' Dispensary for Children, a description of which, as regards the symptoms and post-mortem appearances, would be almost exactly similar to the foregoing, except that the deformity of the chest was not in all so considerable, was in general more perceptible on the right side, and that the age of the patients varied, the oldest being two years and a half. From one of these cases I took, and still retain, a portion of the ribs and their cartilages, shewing the deformity, and also the right lung, nearly the whole of which presents the morbid appearance already described.

The impeded respiration in these children exerts a baneful influence on sanguification and nutrition, and hence they soon assume the appearance of rickety children, and are often considered in a decline. It is, however, worthy of remark, that no tubercles were present in either of the cases, and that the mesenteric glands were enlarged only in two, and in these not considerably.

It appeared to me at first questionable whether the lesion of the lungs, or contraction of the chest, was the primary affection in these cases. It seemed probable that the altered movement of the ribs was the result of the deformity of the chest, and that the lung was altered by compression; I now, however, entertain no doubt that the lung is primarily affected, and that its lesion causes the abnormal contraction of the thorax in respiration, and, subsequently, the deformity in question. I am led to this opinion, because,—

1st. I have seen cases where there has been the altered movement of the ribs without the deformity; nay, these cases are by no means rare, and in them symptoms of pneumonia of a subacute character, are present, and I have de-

tected in such small crepitation on listening to the chest.

2dly. I have seen this altered movement more considerable on one side than the other, thus indicating the lung principally affected.

3dly. Cases where the altered movement of the ribs alone was apparent, and no deformity, have recovered, and the ribs resumed their normal movement as the lung became healthy.

4thly. I have seen the deformity in the course of the disease shewing itself, and becoming more apparent as that disease progressed.

Hence I am led to believe, that the disease of the lungs is the primary affection; as to its nature, I consider it to be chronic pneumonia.

It is with great diffidence I give this opinion, knowing what Andral, Laennec, Chomel, and others, have said as to the rarity of its occurrence, but I know not what other disease would cause the change of structure perceived, and probably their examinations were confined to, and consequently their remarks refer to, the adult subject. These cases will only be found in the very young subject, where the ribs are most flexible; in after-life, where the ribs are firmer, no such state of things can occur.

Allow me to suggest the following explanation of the phenomena; the lung, in chronic pneumonia, becomes shrunken, as well as solidified; therefore, when the diaphragm contracts in inspiration, either one of two things must occur, either the descent of the muscle must bear an exact relation with the limited expansion of the lung, or the space which would result from its descent, the lung not expanding, must be filled by a temporary contraction of the walls of the chest; in the adult subject the former of these would take place; but, in the infant, the flexible ribs and their cartilages readily yield to the contraction of the muscle within, and to the atmospheric pressure from without; and hence the altered movement of the ribs. At a later period the deformity of the chest establishes a relation between the containing and contained parts.

Where the deformity is well marked, as far as I have seen, the patient never recovers; it seems as if the permanent inversion of the ribs prevented the lung from resuming its healthy state, even after the disease has been checked; where, however, the altered movements of the ribs alone exists, small doses of mercury, with the application of counter-irritants, will succeed often in subduing the inflammation; and the evidence of improvement will be in the movement of the ribs becoming natural during inspiration, the parietes of the chest, in these cases, proving a source of diagnosis as to the state of the organs within.

ACTION OF RECTI MUSCLES.

To the Editor of the Medical Gazette.

Sir,

I beg to offer some observations on the letter of Mr. Lonsdale, in the Medical Gazette of the 15th of this month, on the action of the recti muscles of the abdomen.—I remain, sir,

Your obedient servant,
John Snow, M.R.C.S.

54, Frith Street, Soho,
Dec. 29, 1838.

As I am not about to espouse any of the opinions of previous authors, I shall only notice one or two of Mr. Lonsdale's criticisms of these opinions. He says that if different portions of the rectus muscle had separate contractions, there would then be an unequal pressure upon the abdominal viscera. Now this would not be the case for two reasons: first, because the contraction of any part of the muscle would have a tendency to approximate its two ends, and would consequently produce an equal tension throughout the whole length of the muscle; and, secondly, the abdominal viscera move with sufficient freedom on each other to be placed under the laws which govern fluids, consequently any pressure is felt equally through the whole of these viscera. He says also, in answer to Bertin's opinion, that if the blending of the tendinous intersections of this muscle with its sheath were to enable it to assist more completely the action of the other abdominal muscles, these intersections would then be found adhering to the sheath at its posterior part also, for at present they would pull irregularly. Now Mr. Lonsdale must know that the anterior and posterior parts of the sheath of the rectus become intimately blended at the linea semilunaris, before reaching the muscular

fibres of the oblique; consequently any degree of traction exerted through the anterior part of the sheath would be as equally diffused as through both parts.

Mr. Lonsdale says, that when this muscle contracts, from being in a straight line, it takes on a curved direction backwards towards the spine; and this is not a mistake or a misprint, for it is a necessary part of the theory he advances, and it is exemplified by an engraving. Now for a muscle, extending in a straight line between two fixed points, to take on a curved form, it must become longer instead of contracting; and in the engraving it is actually figured much longer in its so-called contracted state than when relaxed. When the muscle becomes curved in the manner here described, it is not by its own contraction, but it is drawn into this form by the contraction of the transversus and part of the two obliqui muscles; if it contract when retained in this position, it will draw down the sternum and ribs, causing expiration, but still its tendency will be to assume a straight position. The rectus can only compress the abdominal viscera to the extent it does when it becomes a straight line between the pubes and sternum, after being curved forward; if it continue to contract after it has become straight, or when it is held forcibly in a curve, it will then approximate the sternum to the pelvis. The muscles that can retain it in the curved position backward are stated above; and the diaphragm, by pressing on the abdominal viscera, can curve it forward and retain it so.

I will not comment on Mr. Lonsdale's suggestion that the tendinous intersections give the muscle a greater power of contracting since he supports it only by saying, that the opposite cannot be proved.

I do not see any thing important in the absence of any adhesion between the rectus and the posterior part of its sheath. A muscle that has a separate and individual action, is, of necessity, never so connected with surrounding parts as to have its motions prevented. Between the tendinous intersections on its anterior part the muscle is merely united to its sheath by cellular tissue; and at its posterior part, where the tendinous intersections are scarcely seen, it is connected only by cellular tissue in its whole length.

But the structure even of this muscle does not admit of the application of Mr. Lonsdale's theory: it is not, as he states, composed of an anterior half with tendinous intersections and a posterior half without; but, agreeably to the descriptions of Boyer and Cloquet, the fibres arising from intersection are, for the most part, not inserted into the one immediately above, but dip behind it, and are inserted into a tendinous band higher up, so that few of the fibres of this muscle extend its whole length.

To conclude, I do not think these tendinous bands, which are found varying in number and situation in the rectus abdominis muscle, execute any important office; like the cicatrix on the skin which covers this muscle (the umbilicus) and numerous other parts in the body, they are perhaps the remnant of some more early state of organization.

CRYSTALLINE FORMATION IN THE BOWELS.

To the Editor of the Medical Gazette.

Sir,

In the number of your valuable journal for November 24, I notice an article headed "Crystals in the Human Intestines," which were found, on a post-mortem examination, in the colon and in no other part of the intestinal tract; and which were found, on analysis by Dr. Apjohn, to be composed of the ammoniaco-magnesian phosphate. The writer remarks, "I believe the case which I have given is the first in which separate and regular crystals have been noticed in these countries in the contents of the human intestines."

I shall here beg leave to refer the reader to the 4th edition of my Treatise on Gout, &c., in which I gave the following statement:—

"I have found, in two instances, a discharge from the bowels of a substance very much resembling grains of white sand. In each case the liver was irregular in its office, and the whole of the digestive functions were considerably disordered. I made a particular examination of one of these specimens, and the following were the results:—

In external character, whitish, shining, and granular; the grains being

larger than those of ordinary white sand.

1. Being heated in a platina spoon, it blackened and exhaled an ammoniacal and animal odour. The muriatic acid stopper held over the heated matter produced dense white fumes of muriate of ammonia.

2. Submitted to the action of diluted muriatic acid, it dissolved by the assistance of heat without effervescence, leaving a very small portion of residue.

3. By diluted nitric acid it dissolved to the same extent. This solution became decomposed both by nitrate of lead and by pure ammonia; the former indicating the presence of phosphoric acid, the latter of phosphate of magnesia.

4. The liquor being rendered neutral by pure ammonia, oxalate of ammonia was added, without causing any precipitation. Hence is proved the absence of lime.

5. The insoluble residue treated by a boiling solution of caustic potash was dissolved. To this solution diluted muriatic acid was added, and the mixture was evaporated to dryness. From the addition of distilled water, a matter was separated, which was evidently silicious.

The substance in question consists, therefore, of ammoniaco-magnesian phosphate; a small portion—certainly less than $\frac{1}{20}$th—of silex; and a small quantity of adherent animal matter."

I have the record of receiving a parcel of this kind of crystallized sediment from the late Dr. Baillie, who requested me to examine its nature. I found it to afford exactly the same chemical evidence as the specimen of which I have just now given the details. Dr. Baillie informed me that it was brought to him by a lady who complained of indigestion and disordered bowels. The appearance of the sediment, as derived from the alvine discharges, he said, was new to him, and he fancied, indeed, that there might be some imposition practised.

I have not myself had the opportunity of verifying the fact of such crystallized matter being discharged from the intestines themselves; but in the case quoted from your journal, the crystals were actually found in the colon.

It appears to me that in any instance of the kind coming before us, we should be careful not to be led into error from the probable circumstance of the crystallized decomposition taking place from the urine, its being mixed with the alvine discharge; for examples of this kind I have met with.

If you, sir, should think the present communication of sufficient importance for insertion, it is much at your service.

I am, sir,
Your obedient servant,
CHARLES SCUDAMORE.

Wimpole Street, Jan. 1, 1839.

MEDICAL GAZETTE.

Saturday, January 12, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

RE-VACCINATION.

IN our last article we considered some of the objections of M. Rochoux, a zealous but not very formidable opponent of re-vaccination. He goes on to say that, with such tranquillizing facts before us as the exemption of the vaccinated from the epidemic small-pox at Marseilles, it would be irrational to plead in favour of re-vaccination that if it does no good, it will do no harm. He says that this would be making uselessness, in some sort, our rule of action, until we covered ourselves with amulets from head to foot; for, according to M. Rochoux, Aristotle says that one folly makes many.

We will grant our opponent over the water, therefore, that if re-vaccination be useless, it is of no use to re-vaccinate, and proceed to his next plea. He affirms that, in spite of what M. Bouillaud may say, re-vaccination would make people lose their confidence in the cow-pox, and frighten them without any advantage. Nay, more; it would hinder us from learning the exact prophylactic powers of the cow-pox; for if, as M. Rochoux believes, the first vaccination is an effectual preservative, we should be led to attribute to the

second that immunity which was really due to the first insertion of the vaccine matter. Now the inflexible rules of the experimental method oblige us absolutely to wait, if we wish to be able to decide with certainty the scientific question.

Immediately after this extraordinary sentence he adds, that it is not cruel to decide the physiological problem in this cool expectant method; for even if government were to re-vaccinate the boys at the public schools (this being the point submitted by the Minister of Public Instruction to the Academy of Medicine), they would not be able to re-vaccinate one-tenth of those who have already been vaccinated, and who, perhaps, amount to two-thirds of the living population of France.

Precisely, we answer: as the government lancets could not be stuck into more than two millions of arms, the remaining eighteen would be amply sufficient for M. Rochoux and the rigid experimentalists; while milder men would have the satisfaction of ascertaining whether the renewed inoculation of vaccine matter was an infallible preservative.

When we leave M. Rochoux and his discussion (for which we have been indebted to the *Gazette des Hôpitaux* of the 2d of October) and refer to the debates in the Academy of Medicine, we see that this learned body finds it difficult to come to any conclusion. Thus in the sitting of the 30th of August, 1838, M. Virey read a report in the name of the committee appointed to answer the letter of the Minister of Public Instruction on the subject of re-vaccination. The committee was of opinion that the vaccine matter had not degenerated; that re-vaccination was useless; and that the facts alleged on the other side were exceptions, and of small value. Upon this, facts and arguments were bandied to and fro, in the following manner:—

M. Villeneuve said that the report was unsuitable, wished the question to be answered in the affirmative, and, believing that vaccination was not always a preservative from small-pox, thought it would be prudent to re-vaccinate in the public schools.

M. Breschet disapproved of the report, and thought that the committee had cut the question too short. The Academy of Sciences, on the contrary did not venture to decide it, and made a prize question of the subject. He thought it strange that the Academy of Medicine thus opposed another learned body, without regarding the numerous documents put forth, and the measures taken by the northern governments, quite contrary to the reply proposed by the committee.

M. Sedillot approved of the report, and thought that private families would be alarmed, if re-vaccination were commanded by authority.

M. Bousquet approved of the official answer, yet believed that re-vaccination might be useful, when epidemic small-pox prevailed, and also admitted that the prophylactic virtue of the vaccine virus had diminished.

M. Rochoux agreed with the committee as to the answer they ought to make to the Minister, but he wished the report had been more scientific, and the reasons given more at length. He was of opinion that the exceptions quoted proved nothing against vaccination, for in some cases even confluent small-pox was not a preservative.

M. Chervin reminded the Academy, that in the epidemic of 1828, at Marseilles, many more persons died who had had the small-pox before, than of those who had been vaccinated; so that vaccination was a better prophylactic than the small-pox itself.

M. Cornac approved of the answer, believing the unsuccessful cases to be exceptions of little importance, or facts ill observed. In the country, persons

are often supposed to be properly vaccinated who are not, and the consequent occurrence of small-pox in such persons is intelligible enough.

M. Double thought the answer of the committee too exclusive, and said that it would be prudent for the Academy not to take so great a responsibility on itself in so important a point, which the actual state of its knowledge was not sufficient to clear up.

MM. Londe, Louis, and Collineau, followed on the same side.

Of the three remaining speakers, MM. Bouillaud, Moreau, and Dubois (of Amiens), the first was in favour of re-vaccination; the second thought that the cases where vaccination failed to secure the patient, were mere exceptions; and the third was of opinion that the proposed answer was too decisive, but that re-vaccination was not a pressing measure.

The Report was adopted at this sitting, but we do not know whether it was ever sent to the Minister. On the 2d of October it was again discussed by the Academy, and M. Dubois was of opinion that it was then too favourable to re-vaccination.

On the other hand, the re-vaccinators have not been idle: among others, M. Dezeimeris, whose memoir is analyzed in the Gazette des Hôpitaux of the 18th of October, and M. Fiard, in the number of the same journal for the 13th of November, furnish very valuable facts.

One attack of small-pox, says M. Dezeimeris, is not an absolute preservative against a second one; yet the second attack never follows the first immediately, but after some considerable interval: hence the prophylactic power of the first attack is at its acmé just after the body has been imbued with the virus, and grows weaker in proportion to the time which has elapsed since the attack.

So far, so good; although some objection might possibly be taken to the assertion that the liability to a second attack increases in proportion to the distance of the first; even though we readily grant that the second never immediately follows the first.

But M. Dezeimeris' second principle is not quite so admissible. He says that the practice of small-pox inoculation had taught us that the engrafted virus produced a milder disease than the natural small-pox; *that the virus became milder and milder by successive transplantations;* whence we might conclude that as it grew weaker by reproduction, it also became less energetic in its preservative power.

The assertion which we have italicized is very doubtful, and the conclusion is not legitimately drawn from it, but seems rather deduced by analogy from the declension of the prophylactic powers of the cow-pox, than a matter of fact.

It is especially since 1820, says M. Dezeimeris, when so many successive epidemics began, that the infallibility of the preservative virtue both of cow-pox and small-pox, has been shaken; and since that period the question of re-vaccination has been continually morbid.

The following list which he gives of the deaths from small-pox at Copenhagen, shews how great was the prophylactic power of cow-pox on its first introduction:—

Years.	Deaths.
1749 to 1758	2,991
1759 to 1768	2,068
1769 to 1778	2,224
1779 to 1788	2,028
1789 to 1798	2,920
1799 to 1808	724

From 1800 to 1804 there was not a single case of small-pox in a vaccinated person. In 1804 there were two of the varioloïd disease. In 1805 five persons died of the varioloïd disease; in 1806 three vaccinated persons died of this

malady; and in 1808 there were forty-six deaths by small-pox, including thirteen cases of varioloïd disease. In 1819, but still more in 1823, cases of varioloïd disease, as well as of true small-pox, were exceedingly numerous, and not confined to Copenhagen.

Among the small-pox patients who had been vaccinated, twenty-four only were under seven years of age; forty-two were between seven and eleven; and 191 were between twelve and twenty-three. Thus nine-tenths of the patients had been vaccinated more than ten years. Again, three of these died from confluent small-pox, but they had been vaccinated when the cow-pox was first introduced, showing how entirely the prophylactic power was lost by so great a lapse of time.

In the epidemic which lasted from 1825 to the middle of 1827, out of 623 cases of small-pox or varioloid disease, 428 were among vaccinated persons; but only two died, while of the non-vaccinated one in five died.

M. Fiard's letter on the same subject is sensible and persuasive. To recur to the cow, and to re-vaccinate, are his principles, and he practises what he preaches. All the re-vaccinations which he has performed since 1836 with the new virus have succeeded more or less. Re-vaccination succeeds better in proportion to the time which had elapsed since the first vaccination; at least up to the age of 30 or 35; after this period it does not succeed so often, nor so perfectly. He says, that in Prussia and Wurtemberg, out of 91,516 re-vaccinations, 41,663 have completely succeeded.

The following are the questions proposed by the Academy of Sciences for a prize of ten thousand francs, to be given in 1842; but the prize will be given out *s'il y a lieu*, that is if a good essay is sent in; the best bit of trash is not to be rewarded with four hundred pounds sterling:—

Is the preservative power of the cow-pox perfect, or only temporary?

In the latter case it is required to determine by accurate experiments and authentic facts the time during which the cow-pox is a prophylactic against the small-pox.

Has the matter fresh from the cow a more certain or more lasting preservative power than vaccine matter which is the produce of successive vaccinations?

Supposing that the preservative power grows weaker by time, should it be renewed, and how is this to be done?

Has the greater or less intensity of the local phenomena of vaccination any relation to its prophylactic power?

Is it necessary to vaccinate the same person several times? and if this is answered in the affirmative, after how many years must vaccination be renewed?

These questions are interesting and well put; but if any of our readers, disinclined to wait till 1842 for the answers, should do us the honour to ask our opinion, we should reply, that the balance of facts and arguments appears to us to incline considerably in favour of recurring to the cow, and of repeating vaccination.

We venture to add, that the cow-pox is probably still the most valuable point in the practice of the healing art, though not so capable of indefinite transmission without injury as was supposed by Jenner and the early vaccinators.

UNIVERSITY COLLEGE.

We are happy in being able to state that Dr. Copland has acceded to the application made to him by the authorities of University College, and that he is to complete the course of lectures interrupted by the resignation of Dr. Elliotson. The arrangement is the best that could have been made, and is highly creditable to the discrimination of the parties concerned.

WESTMINSTER HOSPITAL.

CLINICAL LECTURE BY JNO. BURNE, M.D.

November 19th, 1838.

Epilepsy.—Double Pneumonia.—Sero-hepatitis and Hysteria.

CASE XXVI.—*Epilepsy.*

CHARLES BAKER, age 12, admitted on the 18th of September ult. For the last four years he has been subject to fits once or twice a week, which come on for the most part about the middle of the night, while he is in bed. When a fit seizes him he calls out, then moans, struggles, and foams at the mouth; the convulsions hold on him for about 15 or 20 minutes, when they subside, and he recovers, but has no recollection of the fit. The only sign premonitory of a paroxysm is drowsiness.

The boy is of small stature; has large dark eyes; the frontal portion of the head is rather narrow, but he has an intelligent expression nevertheless. He has the aspect of health, and has but one complaint —some pain across the forehead; the brow is puckered.

Elaterii gr. ¼ mane alternis diebus.
Mist. Conf. Aromat. b. d.

These medicines were continued for a month, the elaterium operating freely three or four times. The fits have recurred only twice since he has been in the hospital, one of the two having been induced by the fear of seeing a patient in the same ward die. The pain in the forehead, though much better, is not removed; and he feels weak from the continued action of the elaterium.

Oct. 18.—Omittatur Elaterium. Ferri Sesquioxidi gr. x. bis quotidie.

The pain in the forehead persisting, and the bowels not acting very regularly, *one grain of aloes* was added to each dose of the iron, and four leeches were applied to the forehead, with the desired effect. This treatment has been persevered in, the leeches being repeated once a week. The pain in the forehead is gone; the health good; and as he has not had any return of the epileptic paroxysm for the last month, he will leave the hospital to-morrow.

The epilepsy in this boy was very well marked. There were the usual struggles, convulsions, foaming at the mouth, and insensibility; and, moreover, a perfect unconsciousness, on his part, of the fit. It is characteristic of epilepsy that the patient has no recollection whatever of what passed during the paroxysm: his memory only serves him up to the moment of seizure. In this instance, as is generally the case in children of his age, the epileptic fits came on in the night; and in the majority of young persons affected with epilepsy—say from 8 to 16 years of age—the seizure happens while they are in a profound sleep. The probable reason why these attacks occur more frequently at night than at any other time is, that during sleep a considerable congestion of blood, favoured by the horizontal posture, takes place in the head, and by occasioning more or less pressure on the brain, induces the paroxysm.

In epileptic patients there is often a peculiar configuration of the head, and a remarkable development of the organs of mastication. I have found that in proportion as young persons have a defective development of the anterior lobes of the brain, as indicated by a narrow and low forehead—in proportion as they have the lips thick and mouth large, with more or less of a vacant stare—so in proportion is the hope of cure diminished. There is in the very aspect of these patients that which argues something imperfect about the brain; their cases are consequently obstinate, and very apt to end in idiocy—perhaps insanity.

In our little patient were the reverse of these indications. The mouth and organs of mastication were by no means largely developed; he had an intelligent eye; and although the forehead was narrow, yet the development was far from deficient. Looking, therefore, at his age, the development of the head, and the aspect of the countenance, all was in favour of this boy's permanent recovery.

The object in the treatment was, in the first place, to obviate any irregularity of the bowels; it being certain that any disorder of the digestive organs, induced by constipation or irregularity of diet, proves at all events a source of aggravation. Purging, therefore, is a necessary part of the treatment, and often proves very beneficial. I commenced, in this boy, by giving him a quarter of a grain of elaterium every other day; and, inasmuch as he bore it pretty well, and indeed greatly improved under its use, I continued it for several weeks. Although the condition of the alimentary canal is frequently a source of aggravation, yet it is not every case that will bear such severe purging. In proportion as the organs of mastication are large, the appetite voracious, and the patient is allowed to eat, so in proportion will he generally bear purgatives. But in delicate constitutions, where the nervous system is susceptible, purgatives are not well borne, and consequently we must not, in every epileptic patient, proceed on the

system of drastic purgatives. This mode of treatment having been carried on for nearly a month, and the boy beginning to feel distressed by the elaterium, it was omitted, and the sesquioxide of iron substituted, on the established conviction that mineral tonics are very useful in what are called nervous affections. In addition to mineral tonics, inasmuch as there was pain in the head nothwithstanding the bowels had been so freely acted upon by the elaterium, I directed four leeches to be applied to the forehead, with the view of removing any local cerebral congestion; and these, having been repeated once a week, produced decided relief. The bowels became sluggish under the use of the iron, on which account one grain of aloes was added to each dose. A combination of aloes, varying from half a grain to a grain, with each dose of the iron, will relieve constipation, and cause the iron to agree where otherwise it would not be borne. Under this treatment the fits were suspended, and one can only hope that he will continue free from future attacks; but as there is so great a tendency in epilepsy to return, it is more than probable that he may be again afflicted with it.

It is a great object in the treatment of epilepsy to prevent the recurrence of the paroxysm. In the boy, Baker, the fits occurred in the night; they attacked him while he was asleep, and it was therefore impossible to anticipate and guard against them. But where the seizures occur in the day-time, and there are premonitory signs, they can often be prevented by ammonia and laudanum, given just before the fit comes on; and thus by arresting and breaking through the habit—for there seems to be a habit or periodicity in this complaint—you may materially aid the cure.

A young gentleman, 20 years of age, under my care for epileptic fits, was seized one day as he was passing near my house with sparkling in the eyes, lightness in the head, and other signs which warned him that a fit was at hand. He ran to my house in that state, and found me at home. I immediately sent and procured a draught, composed of Arom. confect., ammonia, and four drops of laudanum, which he took, and in less than two minutes was relieved from all the threatening symptoms. He said it acted upon him like a charm; and it is remarkable that he has escaped the fits from that time to the present. He had a large head from cerebral irritation during childhood; his eyes were wide apart, and there was a vacant stare about him which too plainly told that, had the fits continued, he would have become idiotic.

I mention the case to shew how important an object it is in epilepsy to break the chain—to arrest the fits, if possible; for by so doing you aid the cure, just as of ague or any other periodical disease.

Case XXVII.—*Double Pneumonia, with Bronchial Congestion.*

1838.—Thomas Seaby, age 17, admitted on Tuesday, the 1st of the present month, November.

He stated that on Saturday, the 27th of October, four days before he entered the hospital, he got wet through, and allowed his clothes to dry on his back; that the same evening he was seized with rigors, followed by cough and difficulty of breathing, which had grown worse and worse, and for which nothing had been done.

2 P.M.—It was on the day of his admission, about two o'clock, that I first saw him. He complained of soreness, tightness, and weight across the chest inferiorly; he breathed with great labour and difficulty; his face was blue and swollen from congestion; his cough harsh and dry; the skin dry, rather pungently hot; the pulse 116, hard, and rather full; the tongue red, disposed to be dry; the body not open.

The respirations 60, thoracic as well as abdominal. There was a dry sonorous wheeze and bronchial respiration pretty general over the upper two-thirds of the chest, with here and there a valvular wheeze during expiration, which was rather prolonged. In the inferior third of the chest on both sides was a well-marked crepitating wheeze, with dulness on percussion, greater on the right side.

Diagnosis.—Double pneumonia of the inferior lobes, more severe on the right side; bronchial congestion superiorly.

The youth was muscular, but of short stature, and had been subject to a cough in the winter.

Sanguis, venâ incisâ, ad ℥xiv. statim mittatur. Pulv. Jalapæ, cum Hyd. Chloridi, ℈j. statim. Antim. Potassio-tartratis, gr. ¼, alternis horis. Empl. Cantharidis sterno vespere.

At seven o'clock in the evening, the respiration being in no way relieved, blood was again drawn to ℥xij., and at half after eleven at night, the dyspnœa being still urgent, and the patient unable to lie down, the apothecary, Mr. Baller, very judiciously cupped him to ℥xij., and increased the antimony to half-grain doses.

Nov. 2d.—The patient said he was much relieved by the loss of blood and the blister, particularly by the cupping; the blood neither buffed nor cupped; the antimony borne in the larger doses without nausea; no sleep. There was less con-

gestion in the face, and less labour in the breathing, though he was obliged to observe the semi-erect posture in bed; the respirations were reduced to 48, more abdominal; the pulse 108, less hard; the tongue moist and less red; the skin has lost the pungent heat; he had had two dejections, but had not passed any urine for the last twenty-four hours.

The respiration broncho-vesicular superiorly, with less sonorous wheeze, but here and there a valvular wheeze on inspiration, and a cooing wheeze on expiration, which was less prolonged than on the previous days. Inferiorly crepitation less audible, almost null on the right side, as also was the resonance. On the left side the same.

He did not think himself so well within the last hour; his respiration was becoming again difficult, and he spoke of wanting sleep.

℞ Hydrarg. Chlorid. gr. v.; Opii, gr. ½. M. f. Pil. ii. statim. Pergat in usu Antimonii. Decoct. Pectorale potui usitato assumat.

I directed that he should be again cupped in the evening if the thoracic symptoms should grow urgent.

3d.—He was very much better; for after having taken the calomel and opium yesterday at 3 P.M., he fell asleep in half an hour, slept tranquilly till 10 at night, then awoke for a short time, and afterwards slept all night. The cupping was not required.

He could now lie horizontally. His breathing greatly relieved; the respirations further reduced to 40, and the pulse to 90, and no longer hard. The face much less blue and less swollen. He had passed high coloured urine three times; the skin was natural; he had begun to expectorate; the sputa tenacious and streaked with blood; the cough still rather hard and troublesome. One dejection.

The respiration superiorly more vesicular, with less wheeze. Inferiorly respiration almost null, except on forcing inspiration; bronchial respiration commencing.

Pulv. Jalapæ cum Cal. gr. xv. statim.
Rep. Antimonium sextâ quaquâ horâ.

Through the following day he improved in every respect.

Nov. 5th.—The cough still hard; the sputa scanty, tenacious, and streaked with black matter in lieu of blood; the pulse 88, rather hard; respiration almost null inferiorly.

℞ Hyd. Chloridi, gr. ij.; Antim. Potassio.-Tart. gr. ½. M. f. pil. sexta quaquâ horâ sumenda.

The hard cough subsided under the use of the mercury, which affected his mouth on the second day, and the respiration improved greatly, so as on the 7th to be quite free, and inferiorly on the left side had become broncho-vesicular, and on the right bronchial; his appetite was returning, and he had no complaint. The calomel and antimony were discontinued, and on the 8th I gave him the

Decoct. Guaiaci Comp. ℥ij. ter quotidie, with full diet.

From this time his convalescence was rapid, and enabled him to leave the hospital on the 13th ult.; at which time the vesicular respiration had returned in the left lung inferiorly, and broncho-vesicular in the right.

The pneumonia in this instance was double—that is to say, it affected both lungs, and it was extremely well marked in every particular. There was the hard, harsh, jarring cough; the sense of weight and obscure pain across the chest; the crepitating wheeze inferiorly in both lungs, and dulness on percussion. These signs (co-existing with febrile movement) distinctly indicated pneumonia; and the illness having been produced by an accidental cause four or five days previously, bore out the evidence of its being a decided phlegmasia. The dyspnœa was excessive; his face was bloated, swollen, and exceedingly congested with blood: conditions not belonging to pneumonia; for in pneumonia, extensive even as this was, and affecting the inferior lobes of both lungs, the respiration should not be embarrassed, or amount to the degree of dyspnœa which existed in this instance. Great dyspnœa is not characteristic of pnemonia: where, therefore, it co-exists, you have some other affection present in addition to the pneumonia. In this case the dyspnœa depended on the congested state of the whole bronchial membrane; for the man had been subject to a winter cough and to bronchial congestion, which was now excessive. The decided congestion of the tubes leading to the sound part of the lungs, prevented the free ingress and egress of air in the sound parts, and produced excessive difficulty of breathing, over and above that which arose from the pneumonia. In a case of pure pneumonia, the air is but partially admitted into the cells of the affected parts, but it passes freely into and out of the cells and the bronchial tubes of the sound parts; whereas here the air did not have free ingress or egress to any portion of the lungs, and excessive dyspnœa was the result.

In the treatment, blood was abstracted three times in ten hours, but neither of the bleedings was excessively large. It

may be asked, why was not blood drawn in the first instance to a much greater amount? For this reason:—from the history, it was evident that the patient was not altogether sound prior to the attack; he had been subject to winter cough and bronchial congestion. In the next place, it was quite evident, from the state of the tongue, that there was an adynamic or low tendency, which makes one pause before abstracting a large quantity of blood; it obliges one to feel one's way rather than adopt violent measures. Blood was drawn to the amount of fourteen ounces, but as it did not produce the desired relief (in five hours), twelve ounces more were abstracted; and this not being effectual, the apothecary (Mr. Baller) judiciously had recourse to cupping, and abstracted twelve ounces from the chest, which benefited the patient greatly.

Next to blood-letting, antimony was relied on, as being an established remedy in pneumonia during the first or inflammatory stage; and I depended on it alone. The dose a quarter of a grain every two hours, which was increased to half a grain. This did not produce nausea, and no doubt the antimony might have been further increased to a grain, or even to two grains; but inasmuch as there were signs of amendment on the next day, this was not necessary, and therefore not advisable. Having observed by the diminished crepitation and resonance that the lungs were becoming solid, I now combined calomel with the antimony, with a view to produce absorption; and as the inflammatory stage was then passing away, and the signs were less urgent, the doses of antimony were diminished in frequency. It, together with the calomel, was ordered to be taken every six hours; the object being to mercurialize the system, and to get rid of the results or products of the inflammation, and so to restore the tissue of the lung to its normal state. Before, however, I proceed to comment on the effect of the calomel, I should refer to the first large dose of that remedy, combined with opium, which was given him on the third day. Although on the second day he was better, there were on the third day signs of a relapse; his pulse was again becoming hard, his cough more harsh, his respiration more difficult, and he had had no sleep. It was a question whether more blood should be abstracted. A considerable quantity of blood having been already drawn, and the patient having had no sleep hitherto, I decided to give him the large dose of calomel and opium in the first place, and wait the effect before having again recourse to the lancet. He therefore took five grains of calomel and half a grain of opium; instructions being left, that if the symptoms persisted, he should be again bled in the evening. The calomel and opium had a most beneficial effect, produced immediate sleep, tranquillized the system and relieved the respiration; allayed the increased action, so that it was unnecessary to resort to the further loss of blood. He slept for eighteen hours, awoke very much refreshed, and from that time progressed rapidly, without any bad symptom.

Besides blood-letting, therefore, there are remedies which have a powerful influence in inflammations. No doubt that a combination of opium with calomel, and frequently with antimony also, have a great effect in diminishing vascular excitement—vascular action. It would not be judicious to rely upon this treatment to the exclusion of venesection, but as secondary to it, it is most efficacious.

By the continued use of calomel every six hours, together with half-grain doses of antimony, his mouth very soon became affected. Even on the second day it shewed signs of salivation; and on the third, salivation was established. The crepitation, which had become almost null, indicating solidity of the lung, returned in some degree, and was quickly succeeded by bronchial respiration, shewing that the solidified portions were again becoming permeable to air. It is not unfrequent—indeed, it is said by Laennec to be a common occurrence, that where, in pneumonia, the lung has presented the phenomenon of crepitation, which has subsided in consequence of the lung having become solid from inflammation, the crepitation returns when the deposit begins to be absorbed, which return is to be regarded as a favourable sign, and as indicating that the lung is again admitting air. The crepitation thus returned will pass away, and be succeeded by bronchial respiration, and this again by vesicular respiration, if the lung perfectly recovers. But it would seem that this succession of signs is not constant; for in a great number of cases where the crepitation is followed by nullity of respiration and of resonance, instead of crepitation returning as the lung recovers, you will have bronchial respiration as the first sign of improvement, then broncho-vesicular, and finally the vesicular murmur itself. In this instance I should say there was not a decided return of the crepitation, but that the improvement of the lung was rather indicated by bronchial respiration. In the left lung this became broncho-vesicular, and even vesicular rapidly; but in the right lung, even when he left the hospital, it was only broncho-vesicular.

Recovery in this patient was as rapid and successful as we ever witness.

In the sputa, which, also, were characteristic of pneumonia, that is, remarkably tenacious and scanty, there were streaks of blood, not rusty expectoration, the result of the hard jarring cough. Where there is rusty expectoration, its rusty colour depends on blood absolutely intermixed with it; not streaky. The streaks of blood were really a matter of little importance in the present case; but I mention the circumstance on account of their having been succeeded by streaks of *black* matter, exactly similar in form; and as these occurred at a later period, I should regard them as blood changed into this black matter.

Now black sputa, or black matter in expectoration, is common under many circumstances. It may occur simply from the sooty particles floating in the atmosphere, which, being inhaled with the air, are caught by the secretions of the bronchial membrane, and ejected with and tinge the expectoration, in which case it is of a sooty colour. But in other instances black expectoration comes decidedly from the lungs. Some have supposed that this is secreted by the bronchial glands, and poured into the air-passages. Others seem to think that it arises more or less from hæmorrhage, the blood being changed so as to assume a black colour. In the instance under consideration, the sputa being tinged first with streaks of blood and then with black streaks of the same character, I have no difficulty in concluding that the black matter was blood which had undergone a change. By what means the change was effected I can only conjecture. All acids turn the blood black; carbonic acid, as well as others; and this acid formed in the lungs may have so acted upon blood in the bronchial tubes as to turn it black. The black matter, in a certain degree melanotic, has attracted the attention of pathologists; two papers upon which subject have been lately published in the Medico-Chirurgical Transactions. The ordinary, black, sooty sputa occurring in persons in good health residing in crowded cities, are simply derived from sooty and other particles floating in the atmosphere, whereas, in other instances, the black matter proceeds from the lungs themselves.

CASE XXVIII.—*Sero-Hepatitis.—Hysteria.*

1838.—Agnes Gilfoy, age 18 (a stout strong-built girl,) was brought to the hospital on the 31st of October, about noon, having been found lying in the street outside a public-house. She was in a violent hysteric paroxysm, laughing, crying, convulsed, and almost insensible. She was bled to ʒxiv. The fit lasted two hours and a half.

Nov. 1st.—The night restless; no action of the bowels, although she took a dose of castor oil and turpentine this morning. She was now quite sensible, sighed deeply, complained of pain in the head, and weight at the epigastrium, and cried out when pressure was made in the region of the liver; the respiration short and frequent, no cough nor wheeze; the breath sour and offensive; the pulse 116; smart stroke compressible; some subsultus tendinum; the tongue red, roughish surface, tending to be dry and brown.

Pulv. Rhei cum Calomel. gr. xv. statim; Hydrarg. Chlorid. gr. ii. 6tâ. quaquâ horâ.

2nd.—The night had been again restless; the respirations were 54, catching, and interrupted by a sharp pain in the right hypochondrium, where also great tenderness on pressure continued: the pulse equally frequent, but now sharp and less compressible. She had passed four dark offensive dejections.

Cucurb. cute incisâ, regioni jecoris affigantur, et Sanguis ad ʒviii. detrahatur. Rep. Hydrargyrum. Pulv. aper. effervesc. ʒiss. ter quotidie.

3rd.—The catching pain in the right side was much relieved by the cupping. She was decidedly better; her breath less offensive, and she had passed one copious dark bilious dejection: but the respiration and pulse were still very frequent, and a short dry cough had supervened. She complained much of her head, and of having had no sleep.

Pulp. Jalapæ comp. ʒss. statim.; Hyd. Chlorid. gr. iii.; Opii gr. ss. M. ft. Pil. vespere sumenda. Empl. Cantharidis regioni jecoris.

She now began to pass vast quantities of black green bile: her gums shewed signs of salivation; but she was in every respect better, and from this period gradually and steadily improved for several days; the pain in the side left her, and the respirations became natural. There was every prospect of an immediate convalescence: instead, however, of this improvement continuing, she remained for the next three days stationary, had throbbing pain in the temples, some harshness and heat about the skin; looked dull; the tongue was rough and disposed to be dry, and she lost the appetite which had before begun to return. Several of the other patients in the same ward had not been progressing so satisfactorily, as, from the absence of any bad signs connected with the complaints for which they were under treatment, they ought to have done; which I now suspected might arise from the want of ventilation, the ward feeling

close and disagreeable. On mentioning this to the sister, I was informed that the windows had been less open than usual, at the request of the patients, owing to the severity of the weather.

Thorough ventilation being restored, the patient Gilfoy, as also the others, improved immediately. Gilfoy complaining still of heaviness in the head, was cupped between the shoulders to ʒvj., since which, with the aid of rhubarb draughts, she is become convalescent.

The subject of the present case is a nervous hysterical girl, and consequently she had a variety of symptoms, which had little or nothing to do with the organic affection. She was affected with hysteria, but she was also the subject of hepatitis. The latter may have arisen from having been exposed to the weather all night in the street. Persons who drink acquire an inflammatory habit, and if exposed to cold are liable to accidental attacks of inflammation. In this case the inflammation was not of a violent character, and readily yielded to the treatment adopted.

By sero-hepatitis is meant inflammation of the serous or peritoneal tunic of the liver, in contra-distinction to proper hepatitis or inflammation of the parenchyma of the liver. In sero-hepatitis, the superior surface of the liver contiguous to the diaphragm is for the most part the seat of the inflammation, and hence the thoracic viscera sympathize, giving rise to short and frequent respirations, with dry cough, as in the case before us. In proper hepatitis the abdominal viscera sympathize, and hence the vomiting and constipation which frequently attend this inflammation.

Had time permitted, I would have made some remarks upon the necessity of maintaining proper ventilation in the wards of the hospital, but I must defer them to a future occasion.

WESTMINSTER MEDICAL SOCIETY.

January 5, 1839.

Dr. Chowne, President, in the Chair.

Malignant Diseases of the Alimentary Canal.—Fatty Tumor of the Tongue.—Fatal Purpura Hæmorrhagica.

This meeting being the first occurring after the Christmas holidays, the attendance of members was but thin, and the debate not animated.

Mr. Streeter exhibited to the society a preparation of a scirrhous œsophagus. The disease was situated in that part of the gullet which corresponds to the bifurcation of the trachea. The morbid action had commenced apparently in the neighbouring conglobate glands, and gradually extended to the alimentary tube. About an inch and a half of the œsophagus was disorganized. The tube was contracted to the size of a swan-quill, and the mucous membrane was ulcerated for the entire length of the stricture. Mr. Streeter thought the morbid deposition was of a scirrhous character, though the incised edge of the tumor did not exhibit the cartilaginous bands which usually characterize that morbid structure. There was nothing unusual in the symptoms of the patient. Inability to swallow existed for some time previous to death, and the patient was kept alive by nutritive injections per anum.

Dr. James Johnson had had a case of scirrhous pylorus where the patient was perfectly incapable of imbibing oral nutrition, but where, nevertheless, he continued to keep up a considerable quantity of fat in the abdomen and its viscera. The upper and lower limbs were extremely attenuated, but over the abdomen an inch and a half of adipose covering was deposited. The omentum, mesentery, and appendices epiplaicæ, were loaded with fat. For several months the patient lived by imbibing per anum enemata of beef-tea and other nutritious liquids.

Mr. Hale Thomson thought the great ignorance of the profession as regards the science of disease was no where more perfectly exemplified than in our notions of malignant maladies. Medical men had but little or no acquaintance with the symptoms which characterize the peculiar diathesis antecedent to the development of each malignant growth. Malignant diseases consequently existed often unsuspected in the systems of patients, until they had attained an advanced stage. He recollected the case of an old man, near seventy, who applied to him at the Westminster Hospital for some complaint in the bladder. The patient was worn out with want and age, and died in two days after his admission, showing no symptoms but those of exhaustion. His body was examined after death, according to custom, and, to Mr. Thomson's great surprise, depositions of medullary sarcoma were found in all the tissues of the body. Throughout both hemispheres of the brain large tracts of this morbid structure were discovered. The lungs were studded with deposits of the same substance, about the size of ordinary marbles. Larger medullary depositions were dispersed throughout the liver and spleen, and the entire structure of the pancreas had been supplanted by the same morbid growth. He had taken

slices from the different organs affected to his friend Mr. Kiernan, who agreed with Mr. Thomson in considering each as a well-marked example of fungus hæmatodes. In this man's case there were no outward and visible signs of the disease, at least none that could, in our present state of knowledge, be appreciated. He would ask, could these malignant diseases remain long dormant and innocuous in the system? What were the circumstances that most decidedly accelerated their development? Could they exist as purely topical affections? He had had a case under his observation which seemed to throw some light upon these questions. A policeman had a compound fracture of the humerus; he was admitted into the Westminster Hospital. Six weeks after the injury, a tumor sprung from the bone of a suspicious character. In a short time, Mr. Thomson became convinced it was fungus hæmatodes. He had a consultation on the case. There were present on the occasion, Sir Astley Cooper, Mr. Lawrence, Mr. Travers, Mr. White, Mr. Guthrie, Mr. Thomson, and one or two more surgeons. The tumor was examined; it was unanimously considered to be fungus hæmatodes, but the majority of surgeons declared against amputation of the limb (although there was a good length of healthy bone between the tumor and the shoulder-joint), from the belief that the whole system of the patient was tainted with the malignant diathesis. The disease gradually spread, it reached the shoulder-joint, and ultimately implicated the lungs, when the man died. An autopsy was made, but no traces of the disease could be found in any part of the patient's body, except the affected limb and the parts contiguous to it. He had, a day or two before, been applied to by a gentleman from the country, with a precisely similar tumor arising from an injured bone. The tumor was at present small, and the patient's general health was apparently unaffected. Now his object in relating these cases, was to obtain from the Society the solution of one or two questions. Could fungus hæmatodes exist as a purely local disease, arising from injury?—or could the amputation of the morbid part, even where the general system was contaminated, so much retard the morbid action as to justify the surgeon in amputating the part?

Dr. Addison was of opinion that many contractions of the alimentary canal, whether in the œsophagus, at the cardiac orifice of the stomach, at the pylorus, or in the rectum, though often designated scirrhus, were examples of mere hypertrophy. Such was also the opinion of Andral. Contraction of the pylorus he had often known to exist a long while, without occasioning any pain, or exhibiting even tenderness on pressure. In such cases the general symptoms of dyspepsia only were present. Pain did not occur till ulceration had taken place, and then it arose from the mechanical distension of the contracted ring, and the concomitant pressure on its abraded surface. His (Dr. A.'s) experience tended to shew that the majority of these hypertrophied contractions were totally unconnected with malignant diseases. He had known many instances of the concurrence of the two maladies in one person, and often without any contiguity. In one case he well recollected the pancreas was scirrhous, as well as the structures in the immediate neighbourhood of the pylorus; but that ring, though contracted by hypertrophy, and almost in contact with the morbid alterations, exhibited no approach to a carcinomatous condition. He should like to know the proportion which simple hypertrophied strictures bore to scirrhous contractions of the alimentary tube.

Mr. Hale Thomson should say two to one.

Dr. James Johnson agreed with Dr. Addison and M. Andral that simple strictures, from hypertrophy of certain points of the alimentary canal, were most common. He could corroborate by his own experience the statement of Dr. Addison, that stricture of the pylorus was unattended with pain, and simply indicated by dyspectic symptoms. It was also the case in contraction of the cardiac orifice, a much more distressing affection, arising from the continual tendency to vomit. With regard to Mr. Thomson's questions, he should say that though surgery had been too frequently baffled in cases of malignant maladies, by the recurrence of the hydra in another part of the frame, the surgeon would be justified in operating, by the prospect of saving the patient's life even for a few years. Life was sweet, and he thought a two years' purchase was worth the pain of an operation. He thought that Mr. Thomson would be especially justified in amputating the limb of his patient, by the consideration that the inevitable extension of the disease to the more vital parts, in the course of a short time would inflict, in the limits of each day of his miserable existence, a tenfold greater amount of pain than what the operation would occasion.

In most cases of œsophageal ventricular, or alvine stricture, the utmost the medical man could do, was to prolong the life, and alleviate the pains of the patient as much as possible. In one case of strictured gullet, that of a lady, occurring under his care, life had been prolonged for

eight months after she had ceased to imbibe food through the mouth, by the injection into the bowels of soups and other nutritious fluids. A pint of such liquor, into which fifteen minims of Battley's solution were dropped, was injected every eight hours, "and the patient longed for each injection as much as any alderman ever longed for his turtle soup." The bowels were kept open by laxative enemata.

Mr. Roderick had seen many cases of strictured œsophagus, and he had observed that when the disease was seated high up, the functions of the glottis were generally disturbed, and embarrassment of the breathing was a consequence. When the disease was near the cardiac extremity, frequent and distressing retching was an attendant circumstance. He had very generally found malignant disease and intestinal contractions concomitant.

Dr. Brooke related a case of strictured gullet, in which the submaxillary conglobate glands were involved in fungus hæmatodes. The tube of the œsophagus was contracted to the size of a crow-quill. The patient was unable to swallow any thing but pultaceous and fluid food. The disease was found after death to be confined to the mucous membrane, and its subjacent cellular tissue. He had made a preparation of the part, and a longitudinal section of the stricture shewed its two sides meeting like the apices of two cones.

After a pause, Mr. Hale Thomson related a case where a purely fatty tumor existed on the side of the tongue. He had amputated it, and found it consisted of fat contained in a cyst.

No discussion being excited by this case, Dr. Johnson inquired what was the shortest time, according to the experience of any member present, in which purpura hæmorrhagica had proved fatal?

Dr. Addison recollected a case which occurred at Guy's Hospital, wherein the patient died in four days. The disease occurred suddenly, in a person previously quite well. Hæmorrhage occurred all at once from all the tissues, and the greatest difficulty was found in saving the patient on the first day. On the fourth day, however, he died; all remedies having proved fruitless.

Dr. J. Johnson stated, that his case had proved fatal also on the fourth day. He had bled from all the orifices of the mucous membranes. He should, on a future evening, furnish the Society with the particulars of the case.

The hour striking, the meeting abruptly dispersed.

IDIOS.

REPORT
OF
THE MEDICAL AND SURGICAL SOCIETY
OF
NEWCASTLE UPON TYNE*,
ON
THE PRESENT STATE OF THE MEDICAL PROFESSION.

THIS Society, on surveying the condition of the medical profession, cannot but be strongly impressed with the varied and incongruous materials of which it is composed; they find its members, notwithstanding the perfect identity of their avocations, consisting of practitioners authorized by many different colleges and corporate institutions, from whom have been required unequal courses of study, and dissimilar examinations into the extent of their professional and scientific attainments. They discover also that these institutions have been found inadequate to the fulfilment of their intended purposes; that, consequently, persons are engaged in practice, who have not been authorized by any of them, and that a numerous class of individuals are allowed to prey upon the community, under pretence of having become acquainted with operations and modes of curing diseases, unknown to those who have endeavoured, by an appropriate education, to qualify themselves for the treatment of the various infirmities and injuries with which the human frame is liable to be afflicted.

Public safety demands that all persons engaged in the practice of medicine and surgery should be duly qualified, by a previous course of study, to discharge the important duties they are called on to perform; and this Society deems it incumbent on the legislature to provide, that no person shall be permitted to enter upon the execution of those duties who has not been properly tested as to his acquirements, and publicly declared to possess the requisite degree of qualification.

In consequence of the imperfection and defective administration of the laws at present in existence, they have afforded no security to the public, and have yielded no adequate protection to the legally authorized practitioner, against an unfair and unjust competition with individuals possessing neither license nor diploma, and who are unable to produce satisfactory evidence of their having devoted sufficient time or attention to the attainment of medical and surgical knowledge.

Quackery, of every description, is al-

* The Society consists of more than fifty members.

lowed to exert its baneful influence on society; and, while its miraculous achievements are continually paraded before the public eye, thousands of its credulous and unsuspecting victims are daily submitting themselves to the pain and torture of secret processes of treatment. It is to be deplored that any part of the public revenue should be derived from the indirect encouragement of a system replete with fraud, and productive of most disastrous consequences.

Chemists and druggists are in the constant habit of prescribing for diseases with whose nature they can be very imperfectly acquainted.

The corporate bodies presiding over the profession appear to be quite unequal to the correction of these abuses. The London College of Physicians have at all times acted on a system of exclusiveness and monopoly, and have never displayed the slightest anxiety for the well-being of the profession at large *. The charter of the College of Surgeons confers upon that corporation no control over persons practising surgery; submission to their examinations and by-laws being entirely *voluntary*. The Company of Apothecaries have, by act of parliament, power to prosecute all persons practising as apothecaries without their license. They have, however, exercised this power in a very limited number of instances, nor do they possess the means of exerting it in a manner likely to counteract the evils in question.

Medical education requires considerable amendment. The long space of time occupied in the apprenticeship of most general practitioners is usually passed in a very unprofitable manner. Apprenticeships are objectionable in many respects, and are totally inefficient as a medium of professional improvement; hence, after their termination, a course of study requires to be entered upon, which must, of necessity, be compressed into a period by far too limited for the attainment of the object in view. The information acquired is almost inevitably of a superficial character; for, in addition to hospital practice and dissections, the student is compelled to attend several lectures daily on a variety of subjects; from all of these it is impossible he can derive full advantage. Clinical instruction is much neglected, and the student completes his prescribed curriculum with a very inadequate preparation for the practical duties awaiting him at the bedside of the sick.

Certificates of attendance on lectures and hospital practice are frequently granted without inquiry as to the student's diligence, and in some instances are surreptitiously obtained.

The examinations for licenses and diplomas are conducted not unfrequently in a cursory and inefficient manner. They do not afford an opportunity of ascertaining the *practical* acquirements of the candidate, nor the extent to which his knowledge is the result of *clinical* observation and experience. The College of Surgeons in London require certificates of candidates having studied the various departments of medical science, but their examinations are confined to anatomy, physiology, and surgery. The Society of Apothecaries take no cognizance of surgery, therefore their licentiates being legally qualified, are at liberty to practise *every* branch of the profession, without having been examined in surgery, or required to produce evidence of having been engaged in the study of that important subject.

There are in the United Kingdom of Great Britain and Ireland not fewer than 19 corporations having power to grant degrees in medicine and surgery, and differing essentially in the extent and duration of the curricula they enjoin. The Society is of opinion that all these might be advantageously superseded by one institution being placed at the head of the profession in each division of the empire, whose privileges should be reciprocal, and whose executive officers, elected by the members at large, should hold periodical conferences, for the purpose of establishing uniformity of operation; that such institutions should have entire control over education, and the granting of degrees and licenses to practise, together with all other matters relating to the medical profession; that the course of instruction and test of qualification should be the same in each; that from one or other of them, all persons engaged in the practice of medicine and surgery should be required to possess a diploma or license; that to individuals thus authorized, the law should extend a suitable protection, and that proper measures should be enforced for the suppression of unqualified practitioners.

The Society would suggest, as a means of effecting the last-named object, that every person before commencing practice in any town or other locality, should be required to obtain a certificate from a magistrate giving him permission to that effect, which should be granted on the production of satisfactory testimonials of qualification, and that, after having been thus authorized, his name should be duly registered. Persons presuming to practise, whose names have not been so registered, should be subjected to a penalty on sum-

* [Whatever truth there may have been in this formerly, it does not apply to the existing state of things in that body.—Ed. Gaz.]

mary conviction before a justice of the peace.

The rapid progress of science during the present century, in conjunction with increased facilities for the attainment of medical and surgical knowledge, have fully proved, that any attempt to constitute an arbitrary division of diseases, and to consign the treatment of them to different classes of practitioners, according as they affect the external or internal parts of the body, is not only unscientific, but impracticable; and as the physician and the surgeon must be guided by similar principles in combating disease, whether involving the surface of the interior of the human frame, the education of all practitioners should, in the opinion of this Society, be regulated by one common standard. Those distinctions in rank which have hitherto subsisted (not perhaps without good effect) would thus be rendered unnecessary, since there could be no longer any rational ground for separating into different grades men who would be identified not less in education than in the nature and object of their pursuits. Such uniformity, if established in this as in other countries, would place practioner, whether of medicine or of surgery, on an equal footing; but would not, in the least degree, prevent individuals devoting their energies to the prosecution of any particular department of professional duty, which inclination or other circumstances might lead them to adopt in preference to another.

This task of preparing the medicines, prescribed by the general practitioner, devolves, almost universally, on the apprentice of the latter. That material benefit might accrue from a well devised scheme of pupilage, there can be no question; but apprenticeships, as at present conducted, have ever been productive of unhappy results; and in no respect does the unfavourable tendency of this system appear more conspicuous, than when viewed as an instrument for executing the responsible duty of dispensing. The abolition of apprenticeships, so far, at least, as this department is concerned, would be highly expedient. The Society is of opinion that a charge so important might, with greater safety, be confided to an apothecary or dispenser, who had been examined in pharmacy, and had obtained a specific license for the purpose in question. Such substitute for the apprentice would, the Society believes, be most desirable, not less for the comfort and convenience of the practitioner, than for the welfare and security of his patients.

This proposition, if acted upon, might have an additional good effect in terminating the absurd method by which at present the majority of general practitioners seek to be remunerated, viz. by a profit on the medicines they supply.

The foregoing representations suggest the desirableness of obtaining—

1. An improved system of education.
2. A more efficient method of examination.
3. One governing body to preside over the whole profession in England, Scotland, and Ireland.
4. Uniformity of education and of grade among practitioners.
5. Adequate protection for legally-authorized practitioners.
6. The prevention of unqualified persons.
7. The suppression of quackery.
8. The separation of the practitioner and the dispenser in the same individual.
9. The abolition of apprenticeships as at present constituted.
10. The institution of licensed dispensers.

The Society is desirous to submit to the notice of the profession generally the preceding statement of some of the more prominent evils, which have, for a length of time, weighed heavily on the interests both of the public and of individuals, with a brief outline of the measures calculated, in the opinion of its members, to correct the abuses complained of. As, however, their effectual reformation can be obtained only by the vigorous and united exertions of the whole profession, and not by detached and unconnected efforts, the Society is anxious to invite the co-operation of professional gentlemen in other places, and to recommend to their immediate attention the important questions comprised in this Report. The feeling of the profession at large, as to the defects most urgently requiring amendment, and as to the general principles on which such amendment should be founded, would in this way become apparent; and with a view to the settlement of disputed points, the Society would suggest the expediency of a conference being held in London, or elsewhere, composed of deputations sent from different parts of the empire, whose labours might be directed to the arrangement of a specific plan of medical reform, which, if incorporated in a bill to be introduced into Parliament, and duly supported by petitions, might be reasonably expected to meet with the consideration of government and the legislature.

(Signed) T. E. Headlam, M.D. *President.*
T. M. Greenhow, *Secretary.*

Newcastle upon Tyne,
Nov. 27, 1838.

TEMPERANCE SOCIETIES.

In 1813 a society was formed in Boston, called the Massachusetts Society for the suppression of Intemperance. The individuals who combined for this object were distinguished statesmen, clergymen, and physicians. The means employed were the annual distribution of discourses showing the great evils produced by the use of alcoholic drinks. The efforts of this society were met with ridicule and abuse for some years; their opinions, however, gradually extended among the people, and in the year 1826 the American Temperance Society was formed in the same city, and immediately began a train of active operations. In the year 1827 the Massachusetts Medical Society passed three important resolutions, almost unanimously:—1. That the use of ardent spirits was not necessary to health and strength. 2. That the employment of alcohol and alcoholic medicines in fever had been carried to a pernicious extent. 3. That the most salubrious drink was water.

At about this period medical men generally, in the Northern states, united in opposition to the use of alcohol. The clergy attacked it from the pulpit; the judges and a great number of lawyers made use of official situations and public occasions to give expression to opinions unfavourable to the influence of ardent spirits. The results of all these movements appeared in the year 1835, from the following facts:—About 2,000,000 of persons who had been in the habit of using alcohol had abandoned it. More than 8000 temperance societies had been formed, embracing 1,500,000 members. Of these societies, twenty-three were state societies, comprising all the states in the union but one. Four thousand distilleries had been stopped. More than 1,200 vessels sailed without ardent spirits, and the price of insurance lessened on these vessels. About 12,000 drunkards had been reclaimed, and more than 200,000 persons had abandoned the use of all intoxicating drinks. Since the year 1835, the numbers above stated have been increasing, and other important results have shewn themselves. The bills of mortality exhibit a decrease of deaths in the places where reform has been extensive. The inmates of poor-houses, compared with the increase of population, are diminishing; the amount of crimes is decidedly less, and it is a frequent occurrence to notice in the newspapers that a county jail is without a single tenant. Alienations of property from families whose heads had become drunkards, have lessened in a very remarkable manner in almost every town; the use of wine is diminished among the rich, and instead of the strong Spanish wines, the light wines of France and Germany are getting into general use. In consequence of this, the chronic affection of the stomach, commonly called dyspepsia, which was very prevalent, has almost disappeared, and gout is scarcely heard of.

The disuse of ardent spirits in the Northern states is believed to have increased the physical power of this section at least one-sixth, so that if we allow for its population about 5,000,000, the force of a million of persons will have been added, while the expense of supporting the 5,000,000, instead of being increased, has diminished by the appropriation of that grain for nutrition which was employed for distillation.

The public sentiment is so strongly in favour of prosecuting the temperance reform, that it called on the legislature of Massachusetts to prohibit the sale of ardent spirits on Sundays, about a year since; and this law has operated so satisfactorily, that in the present year (1838) a law has passed prohibiting the sale of ardent spirits in less quantities than fifteen gallons, thus annihilating all the grog shops in that state at a single blow. A similar measure has been adopted by the state of Tennessee, in the west, at a distance of 1000 miles from Massachusetts, which is in the east, and other states will probably follow their example.—*Medical Annual.*

CORONERS' INQUESTS.

To the Editor of the Medical Gazette.

Sir,

I perfectly agree with you in opinion, that although the late law, with respect to the payment of medical witnesses, is an act of great justice to the profession, yet that some change in the way in which medical men are paid for their attendance at coroners' inquests, is necessary. The following case, I think, will prove it:—On Monday, the 10th of this month, a coachman was driving a private carriage from London to the seat of the owner in the country, a distance of thirteen miles. On his way down he frequently called at different public houses, and when within a quarter of a mile of the owner's residence, he called at the last public house for his usual quantity of gin and beer. On attempting to mount the box, he fell; he tried again, and got on the box, but immediately fell from it. He was taken up and assisted into the house, and lived about twenty minutes. In ten minutes after his death I saw him. The history of the accident, the very great mobility of the head, and the grating felt on moving the trachea to and fro on the bodies of the vertebræ, induced me to give an opinion that he died from injury to the cervical vertebræ. Notwithstanding, an in-

quest was held, no medical evidence was called, and the jury returned a verdict, that the deceased died by the *visitation of God*. The day after the inquest (wishing to have ocular demonstration of the correctness of my opinion of the cause of death,) I obtained permission to examine the body, and I found a fracture with a dislocation of the fifth from the sixth cervical vertebræ. The displacement was to the extent of nearly half an inch. There was no appearance of disease.

On speaking to one of the jurymen on the subject, and who did not rightly understand what verdict was returned, he said, "Why, sir, I thought you ought to have been there, but YOU SEE we did it to save expense." Thus, sir, YOU will see, from a niggardly wish to save, how often the ends of justice may be defeated, and how frequently most incorrect verdicts be returned.

A CONSTANT READER.

31st Dec. 1838.

IRIDESCENCE OF THE TAPETUM.

To the Editor of the Medical Gazette.

SIR,

IN your GAZETTE of last week I observed an article written by Mr. J. H. Carter, of University College, on the analogy of structure as well as of colour between the tapetum lucidum of the ox and other ruminants, and that of tendon; and he there states that the iridescence of both is dependent on *refraction*. In this I believe he has committed an error. I think the phenomenon here alluded to is the effect of *reflection*. We cannot have refraction without transmission of light, and I should imagine that both the substances above named are far too opaque to transmit much.

The cause of these beautiful colours, as well as those of mother of pearl, the feathers of the humming-bird, and, in fact, all grooved surfaces, is (I always understood) the interference of the rays of light consequent on their being *reflected* from surfaces of different depths; and it is one of those happy instances the principle of which being understood has enabled art in some measure to imitate nature; I allude now to the iris ornaments of the late Mr. Barton. I remain, sir,

Yours &c.,

J. T. QUEKETT,

Student in Medicine, London Hospital.

Jan. 17th, 1839.

MEETING OF THE STUDENTS AT UNIVERSITY COLLEGE.

A MEETING of the students at University College took place on Friday, the 4th, to take into consideration the circumstances connected with Dr. Elliotson's resignation. The meeting was rather a noisy and confused one, and seemed to consist of parties for and against the Professor, about equally balanced.

Mr. Croft moved "that the students of University College, duly appreciating the high professional acquirements of Dr. Elliotson, and the inestimable value of his services, do most sincerely regret the circumstances which necessarily led to his resignation as Professor of the Principles and Practice of Medicine in the College, and as Physician to the Hospital."

A great deal of discussion now took place, and several amendments were proposed. At length the following was moved by Mr. George:—"That an address be presented to Dr. Elliotson, thanking him for his past services, and expressing the regret of the students that they are to be deprived of them for the future."

So much confusion now occurred, that the results of the voting could not be ascertained so as to satisfy the several parties, and it was therefore agreed to decide the question next day by ballot, all those being allowed to vote who were at present students at the College, or perpetual pupils at the Hospital. The numbers at the close of the ballot were declared to be—

For the original resolution	124
For the amendment	113
Majority	11

We believe that the Council, on finding the matter taken up by the students, immediately and peremptorily accepted Dr. Elliotson's resignation, and that there is no chance whatever of their listening to any proposal for its recal.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *Jan.* 8, 1839.

Abscess	1	Hooping Cough	4
Age and Debility	35	Inflammation	8
Apoplexy	4	Bowels & Stomach	3
Asthma	18	Brain	2
Cancer	2	Lungs and Pleura	7
Childbirth	2	Insanity	2
Consumption	32	Jaundice	1
Convulsions	23	Measles	4
Croup	1	Mortification	1
Dentition	1	Paralysis	2
Dropsy	6	Small-pox	7
Dropsy in the Brain	7	Thrush	1
Erysipelas	1	Unknown Causes	66
Fever	10		
Fever, Scarlet	3	Casualties	6

Decrease of Burials, as compared with the preceding week . . . 24

ERRATUM.—In our last number, p. 527, in the heading of the Stray Notes, *for* "oil of the liver of the Ass," *read* "oil of the liver of the Cod."

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THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, JANUARY 19, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

On the Chemical Constituents of the Urine, and the modes of demonstrating them.

It has been estimated by Dr. Prout, that under ordinary circumstances, as to health and diet, about 32 ounces of urine are voided daily, or in every twenty-four hours. I think this estimate too low, by at least from 10 to 16 ounces; and I think, were we to take the average at 3 pints, or 48 ounces, we should be nearer the reality. But allowing that the urine voided under particular circumstances, and of daily occurrence, is more watery than the analysis of Berzelius averages, we shall take the average, daily, of urine at about 40 ounces of his average constitution. Now 40 fluid ounces, allowing each ounce to equal 480 grains, which is a very low estimate, would give 19·200; and on the supposition that every 1000 grains yield 30 grains of urea, 19·200 grains should yield 577·92 grains of urea. As nitrogen and carbon form about two-thirds of the chemical composition of urea,

$$577{\cdot}92 \div 3 = 192{\cdot}66 \times 2 = 385{\cdot}32 \text{ grs.}$$

the quantity of nitrogen and carbon thrown off daily from the system, by the operation of the kidneys in the generation of this principle alone.

Nor is the generation of urea the only means by which the kidneys purge the system of these noxious principles. We shall find that lithic acid is an animal product, into the composition of which nitrogen and carbon enter in very large proportion. Dr. Prout has given us the result of two analyses of this substance as follows:—

Analyses of Lithic or Uric Acid.

		1st.	2d.
Lithic Acid	Nitrogen	40·25	31·12
	Carbon	34·25	39·87
	Hydrogen	2·75	2·22
	Oxygen	22·75	26·77

Hence, then, it appears that lithic acid contains about 40 per cent. of nitrogen, and, with the carbon, forms nearly three-fourths of the entire composition. Now 40 ounces of urine, according to the analysis of Berzelius, should yield 19·2 grains of lithic acid; therefore we have the following formula:—

$$19{\cdot}2 \div 4 = 4{\cdot}8 \times 3 = 14{\cdot}4 \text{ grains,}$$

the daily discharge of nitrogen and carbon from the system by the generation of lithic acid in the kidneys; and if we add to these 14·4 the 385·32 grains thrown off by the urea, we shall have 399·72 grains as the daily purification by the kidneys alone. Thus, then, we find that the kidneys in their function are so far analogous to the lungs, that they purify the system by throwing off a large proportion of nitrogen, while the lungs throw off a large proportion of carbon.

Nor is this, perhaps, the only means of purification. The blood, it seems, contains sulphur, and phosphorus, the elementary bases of the sulphuric and phosphoric acids. Now in the urine we find that these bases are not only acidified, but in such proportion that they are enabled to hold the alkaline earths—even the most insoluble of them—magnesia, in solution, and thus render their evacuation more easy and certain. From this analogy, therefore, we may conclude that the expulsion of the

lithic acid is provided for by combining it with a base, which increases its solubility; and it is remarkable, too, that the resulting lithate of ammonia should be comparatively so insoluble in the menstruum, when at the ordinary temperature, and so completely soluble at the temperature of the urine, when evacuated from the bladder.

Lithic acid, also, is of importance, from the changes which chemical reagents are capable of producing in it, and the alterations effected in the arrangements of its elements. We have already seen that urea is readily converted into carbonate of ammonia by the action of the caustic fixed alkalies. We also found that diseased urine contains, sometimes, urea in considerable excess, and sometimes principles altogether foreign to the healthy constitution. Such are, *erythric*, *purpuric*, *oxalic*, *melanic*, *benzoic*, *carbonic*, and *hippuric* acids; also the *cystic* and *xanthic* oxides and *sugar*. There are good grounds for believing that most of these products are derived from the *urea* and *lithic* acid; or what is the same thing, that the latter are capable of being converted into the former principles.

Hippuric acid, according to Liebig, consists of:—

Carbon,	63·032	in the 100 parts.
Hydrogen,	5·000	
Nitrogen,	7·337	
Oxygen,	24 631	

	Carbon.	*Nitrogen.*	*Hydrogen.*	*Oxygen.*
One atom lithic acid	10 ..	8 ..	8 ..	6
One atom urea	2 ..	4 ..	5 ..	2
We shall have remaining	8 ..	4 ..	3 ..	4

Elements which are equivalent to 4 atoms of cyanogen, and 4 atoms of carbonic oxide. The above-named philosophers, therefore, regard lithic acid as a compound of urea, with a substance composed of cyanogen and carbonic oxide, which, in their process, was converted by superoxide of lead into *oxalic acid* and *allantoin* or *allantoic acid*. Raspail considers the lithic as consisting of a compound of *cyanous* acid with ammonia, which he has named *cyanite* of ammonia, combined with organic matter; and he considers the conflicting products obtained from the decomposition of this principle, by various chemists, as mainly depending on the quantum of organic matter in combination with the individual specimens of lithic acid subjected to analysis.

These various statements, however, furnish one evidence of great importance in the pathology of urinary deposits—namely, the evolution of oxalic acid, by the action of re-agents upon the lithic acid,—a constant result of the operation of the kidneys in the condition of the urinary functions. Indeed, when we consider the composition of urea and lithic acid, and how closely allied they seem to be, we are inclined to look upon them as mere modifications of the same elementary principles. Thompson, indeed, denies that lithic acid contains hydrogen in its composition. He states (First Principles of Chemistry) that lithic acid exists in combination with water as a hydrate, from the water of which the hydrogen obtained in analysis was derived. But by rendering the acid anhydrous by heating 11·25 grains of lithic acid for 24 hours upon a sand bath, to the temperature of 400° Fah., the crystals thus heated lost 2·25.

But as hippuric acid is but little connected with our present inquiry, it will not be necessary to consider the subject more at length.

A more frequent morbid production, and consequently of more importance, not only on this account, but as forming a constituent of a very severe form of calculous disease, is the oxalic acid. Liebig and Woehler suspect that the lithic acid contains urea. The following are their facts. They formed lithic acid into a pulp, and having brought it to the boiling point by means of boiling water, they added *superoxide* of lead. *Urea* was separated from the mass, and *allantoin*, or more correctly, *allantoic* acid, with *carbonic* acid, and oxalate of lead. The composition of allantoic acid, upon analysis, was found to be as follows:—

*Allantoic Acid**.

Carbon	30·66	or 4 atoms.
Nitrogen	35·50	— 4 ——
Hydrogen	3·75	— 3 ——
Oxygen	30·08	— 3 ——

Therefore a compound of 4 atoms of cyanogen and 3 atoms water. Its elements required 3 atoms of water to give it the composition of oxalate of ammonia, into which it is capable of being converted by the action of alkalies and sulphuric acid. Admitting then, with Liebig, &c. that urea pre-existed in the lithic acid, by subtracting from

* There seems to be some mistake in this statement, which is given on the authority of Müller, as the analytical composition agrees more nearly with the following:—

Carbon.....	5 atoms
Nitrogen.....	2
Hydrogen	4
Oxygen.....	4

Therefore he infers that crystallized lithic acid consists of

Anhydrous lithic acid	9
Water	2·25
	11·25

"As 2·25 represent 2 atoms of water" (Thompson makes oxygen unity or 1, and hydrogen consequently $\frac{1}{8}$ or 0·125), "the probable inference from this experiment is, that the atomic weight of uric (lithic) acid is 9, and that the crystals constitute a hydrate composed of

2 atoms water	= 2·25
1 atom uric acid	9
	11·25."

"Dr. Prout," he continues, "made a very careful analysis of uric acid, by exposing the acid in the state of hydrate to heat, mixed with the requisite quantity of peroxide of copper. He found the constituents as follows:—

2 atoms hydrogen.....	= 0·25
6 atoms carbon.....	= 4·5
2 atoms azote (nitrogen)	= 3·5
3 atoms oxygen.....	= 3·0
	11·25

"The weight of the hydrate, according to this analysis, is 11·25—just what I found it to be in the preceding experiments. But we have seen that this hydrate contains 2 atoms of water, and that the true atomic weight of the anhydrous acid is 9. To obtain the true constitution of the anhydrous acid, we must take away from the preceding constituents 2 atoms of hydrogen and 2 atoms of oxygen: this will give us the components of uric acid as follows:—

6 atoms carbon	= 4·5
2 atoms azote	= 3·5
1 atom oxygen	= 1·0

"Thus uric acid, when anhydrous, contrary to the opinions hitherto entertained by chemists, contains no hydrogen; and, instead of a quaternary, is only a ternary compound, like the vegetable acids. It contains a much smaller proportion of oxygen than any of the vegetable acids."—(First Principles, pp. 162, 163).

Be this as it may, we may presume that urea and lithic acid are but modifications of the same elementary principles; or, in other words, that they are not products of separate operations, but that one is converted into the other by some special operation. Whether urea or lithic acid be the *primitive* principle, our present knowledge does not enable us to determine; but, considering the great solubility of urea and the, comparatively, total insolubility of lithic acid, and, still further, on considering the relative proportions of these two compounds in a given quantity of urine, we cannot look upon it as consistent with those salutary provisions invariably observed in the animal economy, that lithic acid should be the primitive generation to be converted into urea for its expulsion from the system. When we consider how easily the ultimate operations may be perverted, or only suspended, and the painful and even fatal consequences which would result upon the principle that lithic acid were the primary generation, were the conversion but for a very short time suspended, we can hardly imagine that nature has entrusted our safety to so much uncertainty or to such unequal chances. To this we may further add, that in certain urinary affections in which the urea is changed into other principles, and that this conversion proceeds to a very great length, while the urea disappears, the urine appears at the same time deficient in, or even wholly deprived of, its lithic acid. This we shall find to be the case as in the tendency to deposit the earthy phosphates, in which the urea often seems to be converted into carbonate of ammonia, and in diabetes, in which sugar seems to take the place of the same principle, while the lithic acid either wholly disappears or seems to be greatly deficient in quantity.

Taking it, therefore, for granted—subject, however, to correction from future observations—that urea is the primitive principle, and seeing how easily it may itself be converted into carbonate of ammonia, we can readily account for a very formidable class of urinary diseases—the deposition of the earthy salts and their accretions into masses, as we shall more specifically detail when we come to treat upon this subject.

If we allow that urea be the primitive principle, and that lithic acid be a derivative or secondary product, we can easily understand how, in certain cases, the acidifying action being morbidly increased, not only is more lithic acid formed than is consistent with the healthy condition, but also that the urea itself, being generated in excessive quantity, suffers decomposition, is converted into ammonia, so as to hold the lithic acid in solution at the temperature of the urine, and thus effects its expulsion from the system. But if urea is not generated in sufficient quantity to furnish the ammonia requisite for holding the lithic acid in solution, this principle is deposited in the crystalline form, and thus may give rise to the formation of *lithic* calculi.

In the last lecture we observed upon the conversion of urea into ammonia and lithic acid. These conversions consist in some alteration in the relative proportions as well as some rearrangement of the constituents, effected in some way by the

play of those organic affinities constantly in operation in the animal laboratory. We observe that not only are many of the products secreted in excess, but that many new principles, wholly foreign to the normal composition, are occasionally generated. Many of these are acids, as the purpuric, carbonic, &c., which we have already explained, and shewn to arise from chemical reagencies exerted upon either the lithic acid or its primitive. We have also shewn that, according to the experiments of Liebig and Woehler, the lithic acid may be converted into the oxalic by the action of a body surcharged with oxygen, as when oxalate of lead was generated during the reaction of the constituents of the superoxide and lithic acid upon each other. And, indeed, we may refer the production of oxalic acid in the urinary system to some similar operation; or, in other words, we may infer that the lithic is the primitive from whence the oxalic acid is derived. It is a remarkable coincidence that the lithic and mulberry calculi reciprocally form the nuclei of each other; that is, a lithic calculus will have a mulberry nucleus, and a mulberry a lithic one. But these subjects will have to be considered more at length at a future period. It will be necessary, however, to keep the facts in our recollection, as we shall have occasion to revert to them when we come to investigate the oxalate of lime diathesis.

Melanic acid.—With respect to this principle, as it been observed but once by Dr. Marcet, there can be little doubt that it also is some modification of the primitive principles already referred to. It will be necessary, therefore, only to refer to Dr. Marcet's paper in Med. Chirurg. Transactions, xii., 37, for a detailed and more specific account of this principle.

With respect to the mineral acids, the phosphoric, sulphuric, &c., their *radicals*, as well as those of the hydracids, are found in the blood, and consequently there is no great difficulty in conceiving that, under such circumstances, their elimination may readily take place during the operations performed by the urinary apparatus. Instances, however, have occurred in which these principles have not been oxygenated. Indeed, from the action of urine upon silver and lead, there is good reason to believe that sulphur, in small proportion, and in some unknown form of combination different from that of sulphuric acid, exists in the urine.

Phosphorus exists in the blood; but in the urine it is mostly converted into phosphoric acid, and its excess serves to render the alkaline earths, lime and magnesia, soluble, and thus to secure their expulsion from the system. The earthy phosphates, especially those of lime and magnesia, are soluble in an excess of their own acid. Here we have a solution of lime to which we add a small quantity of phosphoric acid, and phosphate of lime precipitates. But if the addition of the phosphoric acid be continued, the precipitate, as you observe, redissolves. In some forms, however, of disease, uncombined phosphorus appears to exist in the urine; and instances are mentioned of urine being so loaded with this principle that it was found capable of rendering objects dipped in it luminous in the dark*. However, it is unnecessary to enter further into the consideration of these principles, as their existence in the free state is to be regarded rather as a pathological singularity than as of real moment.

In the diseased states of the urinary organs we find many principles in the urine which in no way belong to the healthy condition of this excretion. Thus we have seen in the tabular contrast, that certain animal principles belonging exclusively, in the normal conditions, to the blood, find their way into the urine: such are albumen, fibrin, and the red particles —in a word, pure blood. The albumen and fibrin are occasionally — indeed, the albumen very frequently—met with separately and individually in the urine, an instance of which I have an opportunity of shewing in this specimen of urine, passed by a patient suffering from dropsy. If this urine be heated over the spirit-lamp, you observe it becomes opaque, and a dense coagulum very speedily forms before it reaches the boiling point. Now if we examine this coagulum by the tests already noticed, we shall find that it presents the characters of albumen, not fibrin. Recollect, too, the manner of coagulating, and the dense appearance of the coagulum, as it will be of importance upon a future occasion. If we examine the diluted acetic acid which has been digested on the coagulated mass by the triple prussiate—or, according to our new views, the ferrocyanide of potassium—you observe it gives scarcely any evidence of dissolved fibrin, although I have no doubt that, by to-morrow, the precipitate will be greater; but this is quite sufficient to shew that the coagulum consists, for the most part, of albumen.

Fibrin is very seldom found in a separate state uncoagulated in the urine. It has been found but once forming a concretion; but it is occasionally met with in shreds, like small worms—the ascarides—or short bits of thread. I once met with a sort of fibrinous bag, exactly resembling

* Annales de Chimie, Fév. 1814; Ephémerid. Nat. Cur., Déc. 1., Ann. vi. vii., ob. 195.

a cast of the pelvis of the kidney. It was probably the result of some inflammatory exudation from the lining membrane, and being ultimately thrown off, was voided with the urine in which it was found.

Red particles, I believe, have never been found separately in the urine; when they exist, blood may be certainly presumed as mixed with the urine. We have already said enough upon blood and its constituents in a former part of these lectures.

Nitric acid.—The presence of this acid is wholly confined to the diseased states of the urine. The presence of nitric acid is not so easily determined, because it forms but few insoluble compounds with the bases. However, its presence may, in many cases, be determined from its action upon the metals. The nitric is one of those acids in which, though the acidifiable principle, nitrogen, is combined with a large proportion of oxygen, as 1 : 5; yet the nitrogen holds the oxygen so loosely, that it readily parts with it; hence even light is sufficient to decompose and reduce the nitric acid. Copper, tin, lead, and silver, readily decompose it, separating and combining with three equivalents of its oxygen, and liberating binoxide of nitrogen.

Binoxide of nitrogen has the very singular and characteristic property of immediately combining with two equivalents of oxygen, and becoming nitrous acid gas or vapour; hence if binoxide of nitrogen escape into the atmosphere, it immediately abstracts two proportionals of oxygen, and orange-red coloured fumes are evolved, owing to the formation of nitrous acid gas. Thus, if I introduce into this test-tube a little nitric acid, and then a few of these copper clippings, you observe an orange-yellow or reddish colour occupies the lower part of the tube; this is much deepened and extended by applying the flame of the spirit-lamp; the effervescence arises from the escape of the binoxide of nitrogen. The binoxide in its simple state is perfectly colourless and transparent, as you may perceive in the specimen confined over water in this tube. But on admitting the atmospheric air, as you perceive, the orange-red fumes are generated in abundance, and are absorbed by the water which rises in the jar.

Somewhat similar phenomena occur if we act upon an alkaline or earthy nitrate by means of concentrated sulphuric acid. The nitric acid is disengaged, which will act upon copper or tin, &c. with the usual phenomena, and a sulphate of the base is formed. Thus into these two tubes I introduce into the one nitrate of potass, into the other nitrate of baryta, and into each some clippings of copper. Upon pouring into each a little sulphuric acid, the nitric will be disengaged, especially when heated; and, as you observe, the orange fumes are very sensibly evolved.

Nitric acid, as has been stated, sometimes exists in morbid urine; and as it is of importance to be able to verify this fact, it will be necessary to point out the means of determining its presence. It is not always that we can obtain urine containing nitric acid, nor indeed can we satisfactorily presume its existence. In the specimen of urine which I present you, I have some reason to believe that nitric acid exists. This I infer from the appearance of the sediment which has separated, and which seems to be tinged with the purpuric acid. However, we shall divide the filtered portion into two parts, and to one add a little nitric acid, and analyse both, so as to compare the analyses of both—the artificially acidulated and the natural portions, with each other.

First, then, we add to each carbonate of potass. They become neutral. We thus form nitrate of potass; we heat, by which some earthy salts are precipitated, as you see, and filter. We next decompose* the nitrate by acetate of lead in excess; much animal and colouring matter precipitates, and nitrate of lead remains in solution. Filter and decompose the nitrate by a current of hydrosulphuric acid gas; sulphuret of lead precipitates, and nitric acid, *free*, remains in solution. Now we may proceed in one or other of two ways with this solution of the acid—either we may neutralize with potass and crystallize, or, if this be impracticable, redissolve the evaporated mass in alcohol, and crystallize from the alcoholic solution. We obtain nitrate, which will give all the characters already described; or we may distil the nitrate with two equivalents of concentrated sulphuric acid, and from a

* Whether actual decomposition or interchanges of acids and bases take place or not may be a question, because no precipitation occurs on mixing together solutions of nitrate of potass and acetate of lead; but, whether or no, the ultimate results will be the same—the evolution and detection of the nitric acid. If the acetate of lead have no other advantage, it frees from colouring and organic matter. But I have been lately in the habit of adopting a less operose, less tedious, and equally efficacious process. Add to the urine *excess* of carbonate of lead, and digest at a very moderate heat till the urine becomes neutral, and the carbonic acid is wholly expelled, filter, and pass through hydrosulphuric acid gas; the fluid now becomes both acid and limpid, and the nitric acid is liberated. Excess of carbonate of lead is necessary, because when the nitrate of lead is formed it is decomposed by the animal matter, with which the oxide of the metal precipitates, and the liberated acid reacts upon a fresh portion of carbonate of lead. When the nitric acid has been liberated by the hydro-sulphuric acid, the remainder of the process is as above; so as to obtain the nitric acid as pure as possible.

tube retort into a small receiver imbedded in snow. The fluid condensed in the receiver, if nitric acid be present, will produce the orange-coloured fumes on being treated with copper clippings; or a crystal of morphia, on being dropped into a small portion, strikes a deep red colour, which, on dilution with water, will speedily assume a clear transparent orange-yellow colour. We shall now put these processes into operation, and examine the result.

The other plan consists in adding to the hydrated nitric acid, liberated from the nitrate of lead by the hydrosulphuric acid gas, baryta in excess; neutral nitrate of baryta with free baryta remains in solution. This takes place in the operation which you are now witnessing. We add excess of baryta, as you observe by the reaction on the turmeric paper, to insure complete neutralization of the nitric acid; for you observed that the fluid, after the precipitation of the lead, was strongly acid, as it reddened litmus paper. Consequently I have now nitrate of baryta with hydrate of baryta in solution. And here also I would direct your attention to what, no doubt, you have already noticed—the perfectly transparent and colourless solution which we have obtained by our manipulations; so that we shall experience little or no embarrassment in the subsequent part of our processes, from organic or colouring matter. But now we have to get rid of the hydrate of baryta, with which the nitrate, if it exist in this specimen, which has not been artificially impregnated, is contaminated. This is best effected by a current of carbonic acid gas, which, as you see, begins to precipitate carbonate of baryta. The reaction, as you see, is now acidulous, from excess of carbonic acid. This excess must be expelled, because it holds a little baryta in solution. We therefore heat the solution to the boiling point, and filter. We now have a nearly pure solution of nitrate of baryta. This we shall set aside to crystallize, and then examine the products.

You see here the dried results of the processes we set in operation: we have marked them $\dot{B}$ and $\dot{K}$, as indicating the alkalifiable metals, or rather the alkaline oxides with which we saturated the nitric acid liberated by the hydrosulpuric acid from the nitrates of lead in the different experiments. We have again marked the samples, if we may so term them, with ART. and NAT., to determine which was artificially impregnated with nitric acid, and which not. We shall therefore begin with $\dot{B}$ ART., and introduce a small portion into this tube: we pour upon it a few drops of concentrated sulphuric acid. Now, if nitric acid formed a constituent of the salt, it ought to be disengaged without heat; we therefore drop in a clipping or two of copper, and you see effervescence succeeds almost immediately, and the orange-red colour appears, and by the application of a little heat, pervades the whole tube. We decompose another portion from the same mass, by sulphuric acid, in this watch-glass: we now add a particle of morphia, and you observe the red colour immediately appears: this, as you will perceive, soon becomes yellow on adding a little water, as you see. We now take two portions from specimen $\dot{K}$ ART., and treat them precisely in the same way, only we heat the nitrate in this instance with the sulphuric acid; and, on dropping in the copper and morphia, you observe precisely similar indications of the presence of nitric acid. Here is some of the nitrate of potass obtained as above, crystallized from the alcoholic solution. If we fuse these crystals in a tube, or platinum crucible, and project into the fused mass any inflammable matter, as charcoal, sulphur, or phosphorus, they undergo active combustion, as you observe; and we should find the products to consist of *carbonate*, *sulphate*, and *phosphate* of potass, in each particular case.

From these facts, then, we learn that nitric acid artificially mingled with urine may be very certainly detected; but it now remains that we examine $\dot{B}$ and $\dot{K}$ NAT. by the same method of analysis, and ascertain whether we can discover any traces of nitric acid. Of course, I do not promise that my analytical attempts will prove as effectual in this instance as in the last, because it is impossible to say, *à priori*, that nitric acid certainly existed in the specimen; although, from the sensible and mechanical properties of the urine, I am strongly inclined to infer its existence. But even should my expectations be disappointed, my object will not be wholly defeated in consequence of the method I have pursued. For I have already demonstrated to you that free nitric acid artificially mingled with the urine may be detected, and very satisfactorily so, as you have just witnessed. We shall now, therefore, proceed with our analysis; and first as to $\dot{B}$ NAT. If it contain nitric acid, it must in all probability be as *nitrate* of baryta; consequently it will be readily decomposed by sulphuric acid. We therefore introduce a crystal or two, and pour on a few drops of sulphuric acid. We now introduce a clipping or two of copper, and you observe there is a very slight evolution of colour. We heat the tube in the flame of the lamp, and you perceive there is distinct and very satisfactory evidence of nitric acid. The evidence is not so deeply coloured, if I

may so express myself, as in the previous example, because we have not the materials in such abundance. But by converting the nitrate of baryta into nitrate of potass, and mixing this nitrate with the product K NAT. we shall have a sufficiency for distillation, and exhibiting distinctly the characters of nitric acid. For this object we may proceed in one or other of two ways. We first dissolve the nitrate in the smallest possible quantity of distilled water. We may now either precipitate the baryta by means of sulphuric acid, very cautiously added, which would set the nitric acid free, which afterwards may be neutralized by potass, and crystallized by evaporation. But we shall adopt the conversion into nitrate of potass by a simple operation—double decomposition. Thus we drop incautiously a solution of sulphate of potass in boiling distilled water, by which the solution is more concentrated, till precipitation ceases, as you observe has now occurred. Allow the precipitate to subside. Now we draw off the supernatant solution by means of this pipette, and wash the precipitate, and when it subsides we draw off the fluid as before—mix the fluids, and evaporate to dryness. While this part is completing, I shall make the following explanation:—The two salts might have been mixed; that is, the nitrates of potass and of baryta, for the action of the sulphuric acid would have liberated the nitric equally from both; but this exhibits to you the means of converting and altering the constituents of salts; secondly, it is a less complicated process to form the nitrate of baryta into nitrate of potass, than this latter into nitrate of baryta. . . . . The nitrates of potass are now dry, and almost anhydrous—we therefore introduce them into this tube, which is blown into a bulb at the closed end. We now introduce some concentrated sulphuric acid; and heat the upper end, and draw out the neck by heating it before the blow-pipe, as you have now witnessed. Our next business is to bend the neck so as to form a small retort. It is preferable to form the retort after the introduction of the nitrate, because we can more easily convey the whole of the nitrate into the bulb while the tube is straight, than after it has been bent. The sulphuric acid, too, is also more easily conveyed into the bulb before bending the neck. We now pass the neck into the perforation in this cork, which we fix into this little receiver, which is imbedded in snow; place the little retort on the ring of the retort stand, apply the lamp, and commence the distillation.

The distillation is now completed; we separate the retort from the receiver, and you perceive the odour of nitric acid is tolerably sensible. We shall now try the morphia in this capsule, and you perceive the red colour. This, on the addition of a little water, speedily becomes yellow, as you perceive. Into this tube I now introduce a few copper clippings; and pour upon them some of the distilled fluid:—and you perceive an immediate effervescence takes place;—orange red-coloured fumes are generated in abundance, and the fluid in the bottom of the tube becomes green, owing to the formation of nitrate of copper, which forms a bluish green solution. On applying heat, the phenomena are rendered still more intensely characteristic, as you observe. I have been rather fortunate in obtaining this specimen of urine, because it has enabled me to demonstrate to you two facts:—First, the possibility of detecting nitric acid in the urine; secondly, that this acid does really exist in the urine, in certain morbid conditions of the excretion. The specimen was passed by a dispensary patient labouring under fever of a phlogistic or inflammatory character.

LECTURES
ON
TUMORS OF THE BONES,

Delivered at St. George's Hospital,

By Mr. Cæsar Hawkins.

(Concluded.)

General Remarks on Fungous Tumors.—Fractures.—Medical Treatment.—Tying an Arterial Trunk.—Removal, or Amputation.—Degree of Malignancy in Bone.—Confined to the Osseous Tissue.—Recapitulation.

C. *Fungus Hæmatodes.*
- *a. Irregular Expansion in the Cancelli.*
- *b. Of the Periosteum.*
- *c. Distinct Tubercle in the Cancelli.*

4. C. The hæmatoid species of fungous diseases presents itself under several different forms.

C. *a.* In the most usual form there is an expansion of the periosteum and shell of the bone, which latter is somewhat softer and thinner than natural; and the interior consists of broken portions of bone, lessened generally in quantity; or there are only small spiculæ of osseous substance scattered here and there in a soft vascular reddish mass; or such spiculæ are mixed with a yellowish substance in the interstices, or with cysts of serum or of blood. You will see this structure in these preparations of the tibia of a patient

whose limb was removed by Sir Benjamin Brodie, in the Asylum for Recovery of Health, while I was surgeon to that institution. The disease had given little pain or inconvenience, so that she was walking about at the period of the operation. The bone is in pretty hard masses, in a very vascular structure, with several cavities in the tumor. On her death there was found this cyst of very dark liquid in the ovary, which I preserved, but no other disease. Here, again, are the same appearances in a more advanced stage, in the interior of the femur, the osseous part of which is nearly gone, and the cartilage was much expanded over it in the knee-joint. It was amputated by Sir Benjamin Brodie, in a gentleman, 25 years of age, and is described in his work on the Joints. If you contrast these specimens with the medullary tumors, you will not fail to perceive how much they differ from one another.

These tumors often occur in the cancelli of the ends of the long bones, and thus appear like some obscure diseases of the joint, causing some pain and stiffness before any swelling is distinctly observed; which swelling is obviously not that of any disease of the synovial membrane, and has not the symptoms of ulcerated cartilages, which are the usual diseases of the joint. Even when swelling appears, and soft substance is generated, it grows, both in the medullary and hæmatoid varieties, in the directions in which there is least resistance, so as to present a misshapen mass of morbid elastic substance, the exact origin of which you may have difficulty in distinguishing. Here, for instance, is a large tumor of the knee-joint, which I amputated, with a bleeding sloughy fungus in the front, over the patella, which had every appearance of being fungus hæmatodes of the femur, but which, on examination, seemed to originate in the ligament of the patella, a very small portion of which bone was affected. Sometimes, however, a tumor shews itself distinctly to belong to one or other of the bones of the joint, especially when its texture is in a considerable degree osseous, and the occurrence of such a hard bony tumor, becoming partially elastic as it softens, after pain about a joint, renders the diagnosis of the disease easy, except in the deeper joints. I have seen more than one case of obscure pain about the hip-joint, with some impediment to its motion, and suffering of the system at large, lasting many months before it could be determined what was the actual cause of the symptoms, which has at last become apparent by the formation of a tumor round the joint. This large preparatien was taken from a young man who died in the hospital, when about 23 years old, who had felt eleven months previously a sudden snap in the groin, as if he had sprained the joint, succeeded by lameness and pain, and in three months' time a tumor shewed itself in the groin, which was exceedingly painful, and spread by degrees round the hip under the glutei muscles; then several openings formed by ulceration, which bled from time to time, and thus carried off the patient. The joint itself, as you may see, is perfect, but the innominatum is broken up into a great number of pieces, in a quantity of vascular substances like a sponge, from which the hæmorrhage had proceeded.

As the bone is thus broken up and softened, and mixed with fluid, in fungus hæmatodes, it is no wonder that the tumor should resemble an abscess. A middle-aged woman was admitted into the hospital with a large soft tumor on the right side of the chest, which fluctuated, and gave a considerable impulse on coughing, as if it had been a case of empyema making its way externally; when opened, fluid and pulpy matter, much softened by inflammation, came away, and portions of bone were felt in it; and when she died, it was found that there were three ribs destroyed for several inches, and converted into the tumor, and inflammation of the pleura produced by it destroyed the patient. The head of the humerus is another part which is not unfrequently softened by the disease, so as to convey a sensation of fluid. Here are some preparations from a woman who was admitted with some tumor of the breast under Mr. Rose, and with apparently an abscess on the parietal bone, which was punctured, but which proved to be a soft fungus hæmatodes tumor of the bone, through which the probe would pass to the dura mater, the outer surface of which, when in contact with the tumor, has begun to be diseased, and to generate a fungus of a radiated character, and of soft fibrous substance.

Fungus hæmatodes is not unfrequent in the diploe of the skull, as in these preparations, and you may find many cases of this disease in a paper of M. Louis's, in the 5th vol. of the valuable Memoirs of the French Academy of Surgery, under the title of Fungous Tumors of the Dura Mater; in reality, however, such cases are diseases of the bone, affecting both tables, and so spreading to the periosteum and dura mater, but originating in the diploe, and the disease thus makes its way towards the surface occasionally in several parts of the head at once. Mr. Stanley has been engaged for some time I believe in investigating the diseases of the bones, and I look forward to the result as likely

to throw light on the subject of their tumors: he was shewing me, however, a preparation in the museum of St. Bartholomew's a few months ago, as an example of fungous tumor of the dura mater, of which I ventured to express doubts, believing it to be a very rare occurrence, and on examining the part, I believe he was satisfied with me that the dura mater, although attached to the tumor, and thus made to project inwards, was itself perfectly healthy in structure, and that the disease had originated in the bone. Sometimes again, though rarely, a malignant disease affects both surfaces of the bone, before spreading inwards to the diploe; but a fungous growth from the dura mater affecting the bone secondarily, and thus coming to the surface, I believe to be still more uncommon. M. Louis gives you plenty of proof, however, of the folly of meddling with malignant diseases of this kind when thus attacking the cranium, in the frequent occurrence of the patient's death a few days, or even a few hours after an injudicious puncture or other operation upon the tumor. The most extensive deposit of morbid matter sometimes takes place within the diploe before the tables rise into the form of a tumor. In the museum of King's College is a very beautiful preparation of the cranium, made by a foreign physician, in order to shew (what was his opinion) that the malignant disease was propagated along the veins. It is from a patient whose arm was amputated in the Middlesex Hospital by Mr. Arnott, for fungus hæmatodes of the humerus, which returned in many of the bones, and, amongst the rest, the cranium had several tumors on it. Now it is evident, I think, that although the canals for veins are large, like all the vessels of a tumor, yet the deposit has taken place not in the canals, which are smooth, and the bone natural, but among the capillary vessels generally, the bone being eaten away wherever the morbid deposit had been lodged in the diploe: in short, the deposit was produced in the ordinary way of all morbid growths, by the capillaries of the membrane of the diploe. Let me remind you of this singular preparation on the table, which I described to you when speaking of absorption and inflammation of the bones, in which an appearance of several pulsating tumors of the cranium was occasioned in a patient of Mr. Keate's by spontaneous hernia cerebri, with inflammation of the bone, which tumors looked very like fungus hæmatodes.

Another situation in which fungus hæmatodes frequently appears is in the upper jaw, and other bones of the face and nose, with the same softening and expansion of the cancelli which I have described to you; but I shall speak of this subject in a future part of the course, with the other diseases of the antrum.

C. *b.* Fungus hæmatodes is, secondly, developed in the periosteum of a bone, but the disease does not nearly so often commence in this texture as it does in the cancelli, nor is it so often met with as fungus medullaris of the periosteum. The external feeling of the tumors, thus originating, is like that of a fibrous osteosarcoma, or a medullary osteosarcoma, but it is seldom so solid and firm, or osseous, as either of these forms, as it has little fibrous organized matter, and very little bone, either solid or radiated, in its composition. It is usually of a dark spongy character, something like a hardened spleen which has been macerated for some time—an appearance you can see very well in this tumor of the rib, which, being situated under the breast of a female, is said to have been very like a tumor of that gland; and the tumor itself in great measure subsided under the use of iodine for a short time. This fungus hæmatodes tumor of the external part of a bone is soft enough in general to resemble an abscess, but wants the sense of fluctuation on a careful examination, and has a greater degree of elasticity than an abscess commonly presents. Such a tumor is occasionally slow in its influence on the texture of the bone on which it is placed, but affects it more quickly on the whole than a medullary tumor does.

C. *c.* Fungus hæmatodes is occasionally seen in the third form of a regularly circumscribed tubercle in the cancellated texture of a bone. Sometimes it is a circular dark mass like recently coagulated blood, or a portion of recently cut spleen, such as you can here see in a small round tumor of the lower jaw, expanding the shell of bone, and forming a prominence below the alveolar process. You may see the circular form in this tubercle of the thigh-bone, consisting of a yellowish substance with effused blood within it, which looked, before immersion in spirit, exactly like the large soft malignant tubercle of the liver. It is from a man, who was admitted into the hospital under Mr. Keate's care, for a fractured thigh, but who died suddenly a few days afterwards in consequence of hæmorrhage from the chest. The fracture is, as you may perceive, across the centre of the tubercle, which has just begun to soften and enlarge the shell of the femur, and the fatal hæmorrhage had taken place from these large fungus hæmatodes tumors of the œsophagus and root of the lungs and bronchial glands, and you may see the large ulcerated cavity of the œsophagus, whence the bleeding had taken place.

Fractures of the bones, when affected by

either of the forms of malignant fungous tumor, frequently take place, sometimes by accidental violence, at other times spontaneously, the bone being found after a time to bend, when sufficiently disorganized, without the patient being previously aware that the limb was useless. In this patient of Mr. Keate's the fracture had taken place before there was much appearance of enlargement; but it is generally some time after the growth of a perceptible tumor before it thus softens or breaks.

It seems probable, when the growth of a fungous tumor is thus confined in the interior of a bone, that it may generally occasion more pain by the tension of the covering than in an external periosteal tumor; a woman, for instance, was for a long time before I saw her an out-patient of the hospital for some disease of the knee-joint, to which leeches and blisters and other remedies were applied, and I was afterwards asked to see her at her own house, when I found her suffering intolerable pain from a large tumor, evidently of malignant character, in the lower third of the thigh-bone. She one day heard and felt a snap or giving way of the bone, after which the limb became quite flexible, but her pain was much lessened directly; this took place, however, only a few days before her death. When thus confined by the shell of the bone, there are two other effects perceptible during the growth of a malignant tumor; first, the expansion of the shell is a slow process, and the tumor increases slowly for a time, but at last it reaches the periosteum, which offers less resistance, so that a rapid increase of bulk is sometimes immediately perceptible, and the structure directly becomes less osseous, and more like the same disease of the soft parts;—secondly, when thus compressed, the morbid substance is more easily developed in the cancelli than in the shaft, and consequently when an amputation is performed apparently at some distance above the tumor, the interior of the bone, where it seems sound on the outside, may be quite filled with medullary or hæmatoid substance. The disease may therefore return in the stump after an amputation has been supposed erroneously to have removed the whole of the morbid growth; and hence it is safer, if practicable, to remove the whole of an affected bone, than to saw across it;—to amputate at the shoulder, when there is apparently room below; or above the knee, in preference to below it, unless the space above the disease should be very considerable, by the tumor being quite at the ankle, in which case the greater danger of an amputation of the thigh is to be taken into the account; for which reason, also, an amputation at the hip-joint would always be less prudent than an amputation below, cutting across the diseased bone at what seems to be a sound part. The medullary form of disease is especially liable to be thus diffused in the cancellated structure, but it is found also in the hæmatoid kinds of tumor; especially when there are cysts and cavities; and particularly with regard to the hæmorrhagic disposition of the vessels, which prevails sometimes to a greater distance than any morbid material can be detected, and this, whether the vascularity be such as to give the tumor an aneurismal pulsation or not.

I dare say I might subdivide the fungous diseases of the bones into a greater number of varieties, but I do not know that any of them essentially differ from what I have described, or from the progress of the corresponding fungous tumors of the soft textures. I need not say there is no more curative power in medicine for these tumors than for the same diseases elsewhere; but we have seen from a case related to you that a temporary amendment of the constitution can be effected, and the fatal event retarded by sarsaparilla and oxymuriate, or calomel and opium in small doses, with tonics. I mentioned another in which all the soft parts of a tumor, probably fungous, disappeared under friction with hydriodate of potassa with mercurial ointment; and I have shewn you this preparation of the rib in which the tumor materially diminished for a time: but such retardation of the fatal event, and palliation of the symptoms produced by the tumor, is the utmost that can be anticipated.

A more ample trial has been made in cases of fungous tumors of the bones than in those of soft parts, of the effect of intercepting the main supply of blood passing to the tumor, by the ligature of the principal arterial trunk; and this operation has been done sometimes by mistake, the disease having been supposed to be aneurism, sometimes on purpose, and it has been generally unfortunate in its results.

Sir Astley Cooper, in his Essay which I have recommended to your perusal, describes two cases in which the operation was intentionally performed, when the amputation of the diseased part was refused; one of them was by himself, the humeral artery being tied for a tumor of the radius, which at first sloughed, but soon began to grow again; the other was the ligature of the femoral artery, by Mr. Lucas, for a tumor of the tibia, which did not diminish at all, and the operation was succeeded by mortification, requiring the amputation of the thigh a week after the first operation. Of the cases in which an

artery has been tied by mistake, I may mention to you one case of Pelletan's, believed to be aneurism, but really a fungous tumor of the humerus, in which that surgeon tied the subclavian artery, and then opened the tumor, and the patient died in two hours; and another, of a tumor of the same bone, in which the subclavian artery was tied by Dr. Nicoll, but the patient died of hæmorrhage from the vessel. I have also already mentioned to you Mr. Guthrie's case, in which the result was somewhat more fortunate, as it lessened the tumor of the innominatum for some months, and placed the patient in comparative comfort, and retarded the fatal event for that time. If, therefore, a tumor is not capable of removal from its situation, or size, or connexions, or the patient refuses the extirpation of the tumor, when the safer operation might be performed, and is in tolerable health at the time, the ligature of the chief artery going to a tumor may fairly be placed among the plans of surgical treatment which are justifiable; taking into account, and plainly laying before the patient, the risks of mortification and hæmorrhage, so that the adoption of a desperate remedy in a desperate case, is his own free choice, rather than our persuasion.

But if the removal of the tumor is practicable and consented to, certainly that is the course to be recommended; it is uncertain, indeed, in the result, for I have incidentally mentioned, already, seven or eight cases in which the disease, being a constitutional one, returned in some other part of the body, especially in the lungs, and I could describe many others, if it were necessary. Still it is the common opinion, that fungous disease is less likely to return, after it has first appeared in a bone, than it is when situated in the soft parts, such as the breast or testis; and I am inclined to think that this opinion is probably correct; and there are a sufficient number of successful cases to justify an operation almost in every case of fungous disease of bone. You may see here a very remarkable specimen of the hæmatoid variety in the fibula, the tumor being several inches in diameter, and occupying nearly the whole length of the bone, while it is excessively vascular, with large vessels and cellular membrane hanging in shreds within it; yet this was removed by amputation in a young lady by Sir Benjamin Brodie, and several years elapsed at least, during which there was no return of the disease in any other part. In the case also of this medullary tumor of the femur, which is described by Sir Benjamin Brodie in the work on the Joints, four years at least had passed, and all was still right, although the affected bone itself was divided by the operation. I have already alluded to Dr. Mott's celebrated case of excision of the clavicle, as being probably of the hæmatoid kind, and in which twelve years had safely elapsed. There was a remarkable case in the London Hospital, which reflects great credit on Mr. Luke, for its treatment, in which the scapula (a bone the loose cancellated structure of which makes the malignant deposit very liable to spread,) was the seat of a tumor growing rapidly in a girl of 14, and which, when punctured, proved to be *brain-like*, with osseous particles. Three quarters of the scapula were removed with the tumor, which grew from the periosteum on both sides, while the bone was healthy in the centre, and the patient was well a year after, with such good use of the arm that she was said to nurse a child as well as before the operation on that side; so that at all events, if the case ends fatally, the final result must have been considerably retarded.

When the disease returns, it is singular that there is not only an affection of the lungs or other internal organs, but that there is not unfrequently a sort of special selection of bone as the seat of the fungous deposit; sometimes it is in the next adjoining bone, as in this case, where Mr. Babington removed the affected humerus at the shoulder-joint, and the clavicle of the same side was found to be in an incipient state of disease, the intervening joint and other soft parts being healthy; or as in cases such as I have mentioned, where Scarpa amputated the thigh for a pulsating hæmatoid tumor of the tibia, and several years afterwards the same disease appeared in the femur, and destroyed the patient.

At other times, the bones generally are the seat of the malignant disease, and no other texture is affected. I mentioned the case of a patient of Mr. Arnott's in the Middlesex Hospital, where the disease returned some time after the removal of the humerus for a fungous tumor of that bone; in this patient numerous tumors reappeared in the bones, which looked like coagulated blood, or a portion of spleen, and the diploe of the skull was very extensively affected, and tumors formed on several parts of the head, besides which there were deposits in the sternum, the ribs, the opposite humerus, and several other bones; but no sign of malignant disease was discovered in any other texture of the body. Mr. Travers has described a case of the same kind, in which a malignant tumor was situated in a man on the outside of the right os innominatum, on the inside of the opposite bone, and on several ribs; but not elsewhere, except that there was an ossification of a

portion of one pleura. This selection of bone in numerous situations, without any disease of other textures, is a singular circumstance, since, when other textures are affected, some of the viscera are almost sure to be diseased, if the constitution is sufficiently impregnated with the morbid poison to occasion the appearance of a tumor in more than one situation.

Thus, then, we find that there are several tumors of the bones analogous to those of the soft parts, which might be almost considered as additions of these tumors to a bone; viz. 1st, the fibrous tumor, which is innocent in its nature; 2dly, a cystic tumor of the periosteum, which is like the last, non-malignant: and two forms of cystic tumor of the cancelli, the nature of which appears to be doubtful: 3dly, cancer of the bones; and 4thly, all the three usual species of fungous disease, the medullary, hæmatoid, and melanoid, all of which, as well as the cancerous disease, are malignant in character. We have seen, also, that all these sorts of tumors correspond in most particulars with the similar diseases of the soft parts, with such differences as we might reasonably anticipate from the peculiar texture of the bones, when attacked with such diseases. And I am not without hopes that future researches may establish the distinctions between the several tumors of the bones, with such accurate discrimination of signs and symptoms as to guide us in their surgical treatment with considerable precision.

SOME OBSERVATIONS ON THE GLANDS OF COWPER IN THE FEMALE.

By Robert Knox, M.D.
Corresponding Member of the French Academy of Medicine.

Somewhat more than twenty years ago my attention was particularly directed to the descriptive anatomy, not merely of the glands of Cowper, but of all the other organs composing the male and female generative systems. A principal object I had then in view was the determining what organs were essentially male and what female; and also what organs were rudimentary in either sex, and what were fully developed in both.

The reader will, perhaps, readily perceive in such researches an attempt to determine the *type* of the generative system in the human species, and thus to place the foreign (I had almost said German) doctrine of analogies upon a more intelligible footing; to clear it, in fact, of its obscure German and of its vague French dress. Accordingly, in 1828, the result of a part of these researches was read to the Royal Society in Edinburgh, under the form of an Essay on Hermaphrodite Structure; but want of leisure having hitherto prevented my submitting that Essay in any other form to the public, I cannot with propriety refer to it more particularly than by stating the general doctrine—viz. that the "type of the generative system of organs, both in the male and female, is hermaphrodite;" that is, in every individual embryo, all the organs which afterwards in an especial way characterize each sex of the human species, are present *. This doctrine, I apprehend, will be found directly opposed to the modern doctrines of Ackerman, Meckel, Geoffroy, Oken, &c.; the only ones, I believe, admitted in this country, and much esteemed, as being of foreign growth.

But to return. A part of this great inquiry, which for many years engaged all my leisure thoughts, was the determining what were the organs which, by becoming fully developed at puberty, were incontestibly male or female: of these, some were easily determined; the mammæ, for example, necessarily present in both sexes agreeable to my theory, but in a *developed* or *physiological condition*, essentially female: the glands of Cowper present, in both sexes, and *equally developed* in both. But as I have in view, in this brief notice, not so much the determination of these various organs as the exact anatomy and physiological value of some of them, I shall here confine myself to a mere tabular statement of some of the results arrived at in the memoir alluded to, and then proceed at once to the consideration of Cowper's glands.

In the memoir read by me to the Royal Society here, in 1828, I endeavoured to shew, 1st, that the modern doctrines of Meckel, Oken, St. Hilaire, &c. were very ancient even in their minutest details, and corresponded precisely with the views of Caspar Banhin, and of others, long prior to his time.

2dly. That doctrines which were based on the transformation of one set

* This applies equally to all the mammalia.

of organs into another*, or which derived both sets of organs from a primitive common set†, could not be true, as being completely at variance with some of the clearest made-out facts in anatomy, viz. the existence of *both sets of organs*, as well normally as anormally, in the full-grown individual. The coexistence in the same individual of testes and ovaria, of fallopian tubes and vasa deferentia, of clitoris and vagina, of prostate and uterus, (which has often happened), is completely subversive of the French doctrines of the transformation of organs.

3dly. That the doctrine of analogies, therefore, could not be applied to the generative system in the sense these authors had done, since the strictly *female* organs, instead of being analogous to the male, were precisely and in all respects the opposite and contrary.

4thly. That some of the primitive organs remaining throughout life in either sex, in a more or less rudimentary state, had misled these distinguished observers.

Tabular view.

1st. The embryo of the mammalia is at first hermaphrodite.

2d. The cause of the determination of the sex, and the precise period of the operation of this cause, are unknown.

3dly. If it fails, both sets of organs remain more or less perfect throughout life, and this constitutes hermaphrodism to a greater or less extent; thus proving (to every mind open to conviction), that the embryo is not at first *female*, as Meckel and the German anatomists maintain, but hermaphrodite.

4thly. The essentially male organs are, the testes, vasa deferentia, vesiculæ seminales, ductus ejaculatorii, prostate gland, penis, scrotum.

5th. The essentially female organs are, the ovaria, fimbriæ of the fallopian tubes; these tubes themselves; the uterus, vagina. These two sets of male and female organs, instead of being analogous to each other, are directly opposed.

6th. The organs fully developed, but common to both sexes, are Cowper's glands.

7th. Rudimentary organs, whose presence in the adult is in accordance with the great law of formation, but which are of no physiological use to the individual. In the male, the mammæ: in the female, the clitoris, nymphæ, semi-bulbs (rudimentary penis), the greater labia, (rudimentary scrotum), the prostate, (simple and rudimentary). In certain ruminants and pachydermatous animals, the cow and pig, besides these rudimentary organs, others are constantly present, viz. the remains more or less perfect of the *vasa deferentia;* they have been long known to anatomists under the names of the "Ducts of Malpighi, of Goertner," &c.; and even so late as 1834 they were spoken of in the Institute of France by J. G. St. Hilaire, a distinguished naturalist, as "peritoneal tubes." I confess my surprise on reading this strange mistake, and more especially its passing uncontradicted, so far as I can learn, by so eminent a body of anatomists and philosophers. These ducts had been proved by me, a long time ago, to be the remains of the *vasa deferentia of the male* remaining in a rudimentary and consequently imperfect condition in the cow and pig*.

From the foregoing table, it will be seen that the glands of Cowper stand in a category peculiar to themselves. Whether or not this conjecture prove ultimately the correct one, the physiologist is, in my opinion, much indebted to Mr Guthrie† and to Mr. Taylor, for having called his attention to these glands; and, although it be quite true, as Mr. Guthrie has well remarked, that the anatomical structure and relative position to the surrounding parts—in short, that their whole anatomy, in the utmost sense of the term, was perfectly well known to the older anatomists—it is yet, I think, equally true that modern anatomists, from Bichat to Blandin, have as uniformly omitted all mention of them, as if no such glands existed. But as the "glands of Cowper" are just as constant and as much developed in the human female as in the male, it is to be hoped that compilers of systems of anatomy will not fail to de-

* Geoffroy, and a host of French and English writers.

† Meckel, and most of the German writers.

* The existence of these ducts was suspected by most anatomists, from Aristotle to Caspar Banhin, and their *uses* attempted to be explained, but of course on extremely false principles. As rudimentary organs, they serve no physiological purpose in the economy of the individual.

† Guthrie on Diseases of the Bladder and Urethra. Also Taylor, in Dublin Med. Journal.

scribe them with at least as much detail as they generally bestow on the corresponding organs in the male.

I shall now take the liberty of making a few remarks respecting these glands.

Mr. Guthrie (page 55) says, "De Graaff mentioned, and Cowper noticed them in his Anatomy of the Human Body, when he was unacquainted with those in the male which now bear his name." Cowper's work on the Glands I have not been able to find in any of the libraries here; and in respect to his Anatomy of the Human Body, I had always understood it to be a mere reprint of Bidloo. De Graaff describes very accurately the semi-bulbs mentioned by Mr. Guthrie and Mr. Taylor, as parts which were well known, and with the same minuteness he has described the female prostate, following, however, Bartholin; but I cannot find that he was acquainted with Cowper's glands in either male or female. Winslow describes both these glands and the semi-bulbs, adopting for the latter the name given them by De Graaff, viz. plexus retiformis; and under this name they have been very carefully described by a very great number of anatomists. By a strange oversight, Winslow, in accordance with the general opinion of the day, considered Cowper's glands in the female as analogous to the prostate. Santorini speaks of these glands in the female, and also of the "plexus retiformis," as parts so well known as to merit no particular description; his anatomy of them in all respects is most exact*.

Bartholin was well acquainted with them; and finally, Morgagni has not only described them carefully, but has, in his "Adversarii," given a pretty good engraving of the glands of Cowper in the female, their ducts, &c.: of course he knew the anatomy of the "plexus retiformis," or semi-bulbs, which De Graaff had described so accurately. It is a curious circumstance that the anatomy of all these structures has been entirely overlooked by Meckel, and by most modern anatomists.

In respect to their anatomical position, the anatomical student will not, I apprehend, have much difficulty in exposing them. Lay bare the external surface of the constrictor vaginæ on either side, and having carefully cleaned the surface of the muscle throughout its whole extent, cut it across a little above a point corresponding to the centre of the external orifice of the vagina; reflect the portions of the muscle so divided, and the gland will be found situated almost directly below the inferior half of the muscle, a little removed from the outer wall of the vagina, and nearly opposite to the inferior part of the vaginal aperture. From the gland so situated there proceeds a duct, large enough to admit readily of a bristle. The duct comes from the inner margin of the gland, and after proceeding inwards for a short way it bends, ascending upwards, and finally opens in the vulva, nearly opposite to a point corresponding to the centre of the vaginal opening, by an orifice, which is not always readily found in consequence of its lying in a little depression, or from its being partially concealed by a slight fold of mucous membrane. The dissection of either side gives nearly similar results*.

The structure termed semibulb by Mr. Guthrie, was also minutely described by Dr. Graaff, Morgagni, &c.; it corresponds, in all probability, to the male urethral bulb, and is, therefore, simply a rudimentary organ. But its minute anatomy merits further notice, with which I shall trouble you, should you honour this brief notice with an insertion in the GAZETTE.

The physiology of the glands of Cowper is very obscure: there are some facts shewing them to be connected in some curious way with sensual desire. As these glands are known in the male to present considerable varieties as to bulk and number, and to be occasionally either altogether absent, or found with great difficulty from a seeming imperfect development, I thought it right to examine them in eight cases successively; the results were as follows:— Of four adult women, whose ages appeared to vary from 21 to 33, Cowper's glands were found in two perfectly developed, and about the size of small beans, on both sides; the ducts con-

* He has given an engraving of the one on the left side.

* Mr. Taylor says (Dublin Med. Jour.) that the ducts of Cowper's glands in the female open into the vagina, but I have never observed that they did so. In all the dissections, whether made by my brother or self, they have been found uniformly to open into the vulva, very close, however, to the vaginal orifice, but not within it.

tained a brownish fluid: in one, the gland was present, and was fully developed on the left side only, the other being much smaller: in the fourth, both glands were extremely indistinct. In one aged female, about 74, both glands were indistinct, matted as it were to the surrounding structures, and felt cartilaginous; in a second, also very aged, no distinct structures could be made out. In a young person, about 12 years of age, the glands were present, but scarcely a third of the size they attain in the adult; and in a child about 4 years of age they were scarcely apparent. Since these recent dissections were made I have again looked into the works of Morgagni and others, and it seems to me that many of these circumstances were perfectly well known to the older anatomists, and particularly to Morgagni.

REMARKS
ON MR. TYRRELL'S PAPER ON THE
TREATMENT OF ACUTE PURULENT OPHTHALMIA.

To the Editor of the Medical Gazette.

Sir,

In the 21st volume of the Medico-Chirurgical Transactions, there is a paper entitled, "On a successful Plan of arresting the Destruction of the transparent Cornea from Acute Purulent Inflammation of the Conjunctiva, by Frederick Tyrrell, &c." The doctrine advanced by Mr. Tyrrell has been very generally admitted, but I think with too little reserve. Perhaps the following examination will place the doctrine in its true light.

1. *Organization of the Cornea.*

Mr. T. commences his paper with some remarks on the structure of the cornea. To prove the existence of a *conjunctiva corneæ*, he has recourse to evidence drawn from morbid anatomy. This is often an extremely valuable analyst of structure; but I would hint that, though frequently invoked, it has not been universally admitted as decisive of the point in question.

Mr. T. remarks that "it is very difficult to demonstrate the conjunctiva corneæ by the ordinary anatomical means."

It is *difficult*. But that is not the question. The question is, "Is it *possible* or *impossible* to demonstrate satisfactorily a continuation of the component structures, however modified or rudimentary, of the conjunctiva over the front of the cornea, in the natural condition of the eye?"

In answer to this, it may be said that every one admits the existence of a layer on the anterior surface of the cornea, quite different from its proper substance, and apparently a continuation of the conjunctiva covering the sclerotica. True. But then this layer on the anterior surface of the cornea does not present exactly the same, or at least all, the anatomical and chemical characters as the sclerotic conjunctiva. What of it can be raised is, like epidermis or epithelium, coagulated by the heat applied to separate it, and moreover it is not vascular; the vessels seen ramifying on the surface of the cornea in some inflammations being situated underneath it.

"What is the nature of this superficial layer of the cornea?" To answer this question intelligibly, we must first examine the structure of the sclerotic conjunctiva.

The sclerotic conjunctiva is composed of a chorion or vascular basis of the membrane covered by epithelium. Valentin describes between the chorion and epithelium another structure, which he calls *papillary*.

The chorion of the sclerotic conjunctiva consists of irregularly stratified fibres of cellular tissue, interwoven by numerous blood-vessels and nerves.

The discovery of a characteristic structure in epithelium enables us to determine its existence even when so delicate as not to be separable as a distinct layer. It may appear merely as a tenacious mucus, little more than perceptible to the naked eye; but, examined under the microscope, it is found to consist of small polygonal cells, flat, and containing a central nucleus. These corpuscles, aggregated together more or less closely, and in a greater or less quantity, constitute the substance of epithelium, epidermis, &c. Of such is the epithelium of the sclerotic conjunctiva composed.

The structure which Valentin describes under the name of *papillary*, between the chorion and epithelium, does exist. But it must be remembered

that it is a very different thing from the papillary body of the palpebral conjunctiva as described by Eble. Valentin's papillary body of the sclerotic conjunctiva is a matter of the microscope; Eble's papillary body of the palpebral conjunctiva, though minute, is still in some degree cognizable to the naked eye.

I shall not here enter into any description of Valentin's papillary body, but merely observe that it is composed of yellowish red microscopical corpuscles, standing close together, and presenting a round nucleus in their interior. This latter circumstance induces Henle to think they are merely the corpuscles of the epithelium distorted by pressure.

It appears to me that Valentin's papillæ constitute a structure analogous to the rete Malpighianum of the skin. We know that a rete Malpighianum exists in the sclerotic conjunctiva, from the circumstance that, in negroes and many of the lower animals, it is tinged of a black or brown colour.

We thus see that the sclerotic conjunctiva is composed of a chorion, the surface of which is covered by two strata of microscopical corpuscles.

I now return to the question, "What is the nature of the superficial layer of the cornea?" and the answer is--the superficial layer of the cornea is composed of the same two strata of microscopical corpuscles as those just described on the surface of the chorion of the sclerotic conjunctiva. Valentin says that a chorion or fibrous layer does not exist over the cornea. The blood-vessels derived from the sclerotic conjunctiva run merely betwixt the papillary body and the surface of the proper substance of the cornea. They are very delicate, and extremely difficult to inject.

Römer, of Vienna, has described the arteries which ramify from the sclerotic conjunctiva upon the cornea from injections. The fine twigs of the arteries of the sclerotic conjunctiva unite together around the margin of the cornea, into a vascular wreath or circle. From this there arise very numerous branches, which run from the circumference towards the centre of the cornea, and in their course make two or three very fine subdivisions. Their ends bend distinctly inwards, and appear to penetrate the proper substance of the cornea.

Having thus shewn on the surface of the cornea the existence of an epithelium, and of Valentin's papillary body, similar to what is found on the surface of the sclerotic conjunctiva, as also a stratum of blood-vessels, we must admit a cellular support for these vessels, however delicate. If so, the blood-vessels and cellular support at once give us the essential elements of a chorion.

The question so often agitated, — "Does the conjunctiva extend over the cornea?" may be considered as answered in the affirmative by the above anatomical demonstration. Morbid anatomy now comes in advantageously, with its confirmatory and illustrative evidence. But does morbid anatomy prove, as Mr. T. would have it believed, "that the vascular organization of the cornea is principally derived from the conjunctival, and little, if at all, from the sclerotic vessels?" — P. 417. From my own observation, I should say decidedly not. I shall not, however, venture to offer any assertion of my own, in contradiction of the views of such an authority as Mr. Tyrrell, but shall adduce the following extracts from Mr. Lawrence's excellent work on the Diseases of the Eye, remarking that it will require a more decisive demonstration to the contrary than any which Mr. T. has yet offered, to shake my confidence in the correctness of the statements.

Mr. Lawrence says (p. 263), in chronic corneitis, "the circumference of the cornea assumes a brownish-red tint, and appears on first view to be discoloured throughout its texture. Closer examination shows this apparent discoloration to arise from a countless multitude of minute vessels. The edge of the discoloured part is sometimes regularly defined, sometimes not: it may be broader at one part than at another. It is sometimes slightly elevated. *The blood-vessels ramifying in the cornea are obviously derived from the sclerotic trunks. The conjunctiva often retains its natural paleness, while the vessels under it are turgid, and the whole sclerotica is covered by a plexus of distended ramifications, which form a pink zone round the cornea.*"

Again, at p. 265, Mr. L. says, in describing partial inflammation of the cornea, "most frequently inflammation affects the entire cornea, especially in young persons. Sometimes, however, about or after the time of puberty, the

affection commences in one spot; other points become affected in succession, and thus disease may gradually extend over the whole. Pain has been felt in the eye; partial dulness is found at one point near the edge of the cornea; a little redness is seen on the external surface of the eye, corresponding to the nebula corneæ. *On close inspection, this redness proves to be sclerotic, and the conjunctiva is unaltered; enlarged vessels are seen on the sclerotica, and we find minute ramifications extending from them upon the cornea.*"

Another quotation gives still more clearly, if possible, Mr. L.'s observations regarding the source of the blood-vessels of the cornea. "The nutrient vessels of the cornea," says he, p. 367, "become enlarged in disease, so as to convey red blood; the state thus produced being called vascularity of the cornea. *The enlarged vessels may be those of the conjunctival layer, and consequently superficial; or those of the corneal laminæ, and deep-seated.* A few vessels or fasciculi may be visible, or the whole texture may be reddened by a countless multitude of ramifications. The latter state occurring on the surface, with thickening of the conjunctival layer, is called *pannus.* * * * * "The only question," continues Mr. L., "which remains for consideration, is whether the effect of such means (the means by which inflammation is reduced) can be assisted by the operation of dividing the vessels; for example, by cutting out a piece of the conjunctiva round the margin of the cornea in pannus. *The deep-seated vessels of the corneal laminæ cannot be divided;* the proceeding, therefore, could only be beneficial when the *enlargement is confined to those of the mucous surface.*"

But Mr. Tyrrell admits that the cornea "also receives a trifling supply on its inner surface from the vessels of the aqueous or serous membrane which lines it." (P. 418). In regard to this membrane, Mr. T. says (p. 417), "The posterior or concave surface of the cornea is lined by a portion of serous membrane, which is common to the whole anterior chamber; this also becomes evident under morbid changes, though it can hardly be demonstrated satisfactorily in the human eye by the most skilful dissection. The blood-vessels of this serous membrane are derived principally from those of the iris, and after supplying the membrane, some very minute ramifications pass to the posterior or internal laminæ of the cornea; but these are few and insignificant to those which the cornea derives from its conjunctival layer."

On the statements contained in this extract from Mr. Tyrrell I would remark, that it is by no means difficult to demonstrate in the human eye, and that most distinctly, the peculiar pellicle lining the posterior surface of the cornea; and that it is an easy matter to see that it is *not* a membrane calculated to support vessels to another part. The blood-vessels described by Mr. Tyrrell as ramifying in the pellicle lining the posterior surface of the cornea, appear rather to ramify between it and the proper substance of the cornea; such, indeed, is the account of them given by Dr. Prout, from the results of his peculiar mode of injecting. Dr. Prout says*, "the most vascular parts of the cornea seem to lie immediately under the membranes which cover its two surfaces." It is but right to call the reader's attention to the circumstance, that Dr. Prout adds, "whilst its central part is apparently less furnished with vessels,"—an account of the vessels of the cornea which agrees with that of Mr. Tyrrell, in as far as their sources are concerned. I think, however, what has been already said regarding the vascularity of the cornea in corneitis, strengthened by what we know of the distribution of vessels in general, is sufficient to warrant the conclusion, that the proper substance of the cornea receives ramifications directly from the blood-vessels of the sclerotica, as well as from those ramified at its surfaces.

The attempt of Mr. Tyrrell to prove that the proper substance of the cornea receives a sufficient supply of vessels from no other source but the conjunctiva, appears to me rather the suggestion of a mind biassed to the support of a particular view than of unprejudiced observation.

I now come to the proper subject-matter of Mr. Tyrrell's paper.

2. *Mode of Destruction of the Cornea in Purulent Ophthalmia.*

When chemosis is complete, Mr. Tyrrell says, page 420, "the cornea is in momentary danger, by destruction of

* London Medical and Physical Journal, vol. xxx. p. 96.

its vitality, which takes place in the following manner: The elevation of the sclerotic part of the ocular conjunctiva by subjacent deposit, renders it tense, and creates so much stress and tension on that part which is firmly bound down over the junction of the cornea and sclerotic, that the circulation through its vessels becomes impeded and ultimately arrested, so that the principal vascular supply of the cornea is cut off, and it dies or mortifies in part or *in toto*." Again, at page 421, Mr. Tyrrell says, "The cornea then mortifies from a strangulation of its blood-vessels; and this strangulation is produced by the chemosis, or the elevation and tension of the conjunctiva, which covers the sclerotic." * * * * * "Having ascertained," continues Mr. T., "thus much by careful observation," &c.

The first question which these extracts from Mr. Tyrrell's paper suggest is, "Was he the first to point out," as he would have us infer, "that destruction of the cornea takes place in the purulent ophthalmy attended by chemosis, not as a direct consequence of inflammation, but of mortification from pressure?"

The following extract from Dr. Mackenzie's work on the Diseases of the Eye will, I think, be a sufficient answer:—

"I have been led," says Dr. Mackenzie (quoted from the second edition, page 400, but the same words will be found in the edition of 1830, page 331), "to attribute the destruction of the cornea in severe cases of catarrhal ophthalmia, as also in the contagious or Egyptian ophthalmia, and in the ophthalmia of new-born children, not entirely to a vital, but partly to a mechanical cause, not altogether to excessive inflammatory action in the cornea itself, but partly to the *pressure caused by the enormously distended conjunctiva of the eyelids and eyeball.* Other causes no doubt concur." * * * * * "But the destruction of the cornea by infiltration of pus and sloughing, I am disposed to refer *in no small degree to the pressure of the chemosed conjunctiva, and the consequent mechanical death of the cornea.*" These are expressions not to be misunderstood. But if another authority be required, we have it in Mr. Middlemore's voluminous Treatise on the Diseases of the Eye, published in 1835. At p. 61 of the first volume, Mr. M. says:—

"But if the chemosis continues, there is frequently produced *gangrene of the external layers of the cornea*, either from an excessively inflamed state of that portion of the conjunctiva which covers and supports it, or *from the strangulation of those vessels which pass to that part and thence to the cornea.*"

The next question which suggests itself is:—"How does the pressure on the cornea act in producing its destruction?" "Is it by arresting the entrance of blood into it from the conjuctiva, as Mr. T. thinks?" If the cornea receives its vascular supply from other sources besides the vessels of the conjunctiva, as I think I have above shewn to be more than probable, the total destruction of the cornea cannot take place in this way. But let us suppose Mr. T.'s proposition, viz. "that the cornea mortifies from a strangulation of its blood-vessels, produced by the chemosis," is correct, we should expect *à fortiori*, that excision of the conjunctiva all round the cornea would have been certain destruction. Has experience shewn it to be so? On the contrary, we shall immediately see that it has been a plan of treatment in purulent ophthalmy, as highly vaunted as Mr. T.'s.

A much more simple and likely way of accounting for the destruction of the cornea is by the general pressure to which its whole thickness, at the circumference, is subjected, between the unyielding contents of the eye-ball on the one hand, and the chemosed conjunctiva and swollen eyelids on the other. This is what is simply expressed by Dr. Mackenzie. This is all that facts and observation warrant us in maintaining.

3. *Mr. Tyrrell's Plan of treating Acute Purulent Ophthalmia, and the rationale of it.*

I now come to Mr. T.'s plan of treatment, and his *rationale* of it. At p. 421, Mr. T. says:—

"Having ascertained thus much by careful observation, I could hardly fail to resort to such means as would immediately relieve the tension of the chemosed conjunctiva, or to try the effect of free division of it, having due regard to the course of its principal vessels,

and I determined upon the following mode of doing it; to raise and secure the upper eyelid as far as possible, as in the operation for extraction, and then to make free incisions into the sclerotic portion of the ocular conjunctiva, and the subjacent loaded cellular membrane, without injury to any other textures of the globe. I considered it essential that the incisions should extend close to the margin of the cornea, where the tension and pressure would be greatest, and that the direction of the wounds should correspond to the intervals between the insertions of the recti muscles, so that the principal vessels of the conjunctiva of the globe should not be injured."

Mr. T. does not claim the merit of being the first to propose division of the chemosed conjunctiva, as a means of relieving the cornea from risk under acute purulent inflammation; but says, p. 433,—"I trust I have given a satisfactory explanation of proper principles and effects of the operation, and shewn that it is adopted on a scientific basis, &c."

The peculiarity, then, of Mr. Tyrrell's plan of treating chemosis consists not in incising the conjunctiva circularly round the cornea, much less in cutting out a piece of conjunctiva in the same direction, but in making incisions into the conjunctiva radiating from the edge of the cornea, and in the intervals between the recti muscles. By this means the tension of the conjunctiva is relieved without, as Mr. T. thinks, any risk of cutting off the vascular supply to the cornea.

I beg it to be distinctly understood, that I do not offer any opinion on the comparative excellence of radiating incisions, or of circular incisions, or excision of the conjunctiva, as a means of relieving tension in chemosis, and thus saving the cornea from destruction. But one thing is certain, that Scarpa's plan, by circular excision of the projecting portion of the conjunctiva with the curved scissors at the part where the cornea and sclerotica unite, has not always been so unsatisfactory as Mr. T. would have it supposed; and though "the vessels passing to the corneal portion of the conjunctiva must have been in great part, if not entirely divided, and the supply of the corneal portion (and of the cornea?) cut off, or nearly so," the operation has not always "tended, therefore, rather to augment than diminish the mischief it was meant to arrest."

By relating the following circumstances, I do not mean to advocate the plan of circularly excising the chemosed conjunctiva; I merely wish to make use of the fact of its having been often done without the operation being followed by mortification of the cornea, and, supported by what has been already said regarding the source of the vessels of the cornea, to prove that the cornea receives its vascular supply from other sources besides the conjunctiva, and moreover, to disprove altogether Mr. T.'s *rationale* of his plan of treatment.

The excision of the conjunctiva all round the cornea is employed by M. Sanson, of the Hôtel-Dieu of Paris, as a means of cure in gonorrhœal ophthalmia, as appears from a tract entitled "De l'Emploi de l'Excision &c. dans l'Ophthalmie Blennorrhagique, par E. F. Julliard, Paris, 1835," in which the practice is recommended with as much urgency as Mr. T. does his. The following is Sanson's operation, quoted from the abstract, in the Medico-Chirurgical Review, of the French pamphlet:—

"The eyelids being separated from each other, and everted as much as possible, the projecting ocular conjunctiva is laid hold of with a pair of dissecting forceps, and excised by means of curved scissors. The excision ought to be as complete as possible, all the swollen membrane, as far as it can be reached, being firmly (freely?) cut out. The discharge of blood is usually very copious. When it begins to subside, the eye is to be wiped clean of the blood and purulent discharge, and a stick of lunar caustic is then to be rubbed freely on the everted surfaces of both palpebræ. The success of this treatment depends very much on the care which is taken—"cauteriser à un degré convenable la conjonctive palpebrale."

"This practice has been employed at the Hôtel-Dieu for some years, and there has not been a single case of mischief having occurred, although the nitrate has been used very freely and boldly."

Mr. S. M. Griffiths (Transactions of the Medical and Physical Society of Calcutta, vol. viii. pt. 1; Appendix, p. xx.)

informs us that the following operation is performed in Persia for the removal of opacity of the cornea :—

"In this part of Persia (Tehran)" says he, "an operation is practised for the cure of opacity of the cornea, which may be worthy of the attention of the members of the Medical and Physical Society of Calcutta, as it is said to be frequently successful in improving the transparency of the cornea, if not always capable of improving vision. The object of the operation seems to be to completely cut off the vascular communication by excision of a circular portion of the conjunctiva, at a small distance from the margin of the cornea, which is accomplished by fixing eight small hooks into the conjunctiva, about a line from the union of the cornea with the sclerotica, quite round the cornea; the operator then raises that part of the conjunctiva by pulling these hooks towards him, and with a pair of scissors he cuts off the portion thus raised, and completely insulates the conjunctiva covering the cornea, the consequence of which is, the gradual absorption of the opacity of the part affected, and the cornea recovers its transparency."

Oddly enough, the circumstance last related has been adduced by Dr. Graves, of Dublin (see the P.S. to his clinical lecture on Gonorrhœa and Gonorrhœal Ophthalmia, in the Med. Gaz., vol. xxiii. No. 577, p. 443) as an argument in support of Mr. Tyrrell's views;—with what justice, I leave it to the reader to determine.—I am, sir,

Yours, &c.

T. Wharton Jones.

George Street, Hanover Square,
12th January, 1839.

OBSERVATIONS

ON

THE EMPLOYMENT OF THE SOLID NITRATE OF SILVER,

In Stricture of the Urethra, and in other Affections of the Urinary Organs.

By T. B. Curling.

[Read at the Hunterian Society, Dec. 12, 1838.]

There are few diseases which come under the notice of the surgeon requiring the exercise of greater judgment, as well as skill and manual tact in their treatment, than stricture in the urethra and its consequences. The pathology of this disease is well understood, its progress and symptoms have been carefully noted, and much ingenuity has been expended in contriving means to remove it; yet it will not be denied that our opinions as to the most efficacious mode of remedying the evil are still far from being settled. In the history of this, as of many other diseases, we find that remedies which have been unduly extolled have subsequently fallen into disrepute, and that practitioners often limit themselves to a particular method of treatment, instead of adopting a judicious combination of several. It is not my purpose to convass here the merits or demerits of the three different modes of treating stricture—by dilatation, caustic, and incision; but my object is to call attention to one of them, the lunar caustic, which, though of great efficacy in the treatment of this disease, does not obtain in this country that favour to which its merits entitle it, and, when resorted to, is rarely employed in the manner best calculated to obtain its beneficial effects.

Caustic applications have been used in the treatment of strictures from an early period. We are informed that this method was employed by a surgeon of the name of Loiseau, on the person of Henry the Fourth of France, with the greatest benefit, and that it was adopted by Ambrose Paré and Wiseman. In later years the use of it was recommended by Mr. Hunter in particular cases, whilst in the hands of Sir Everard Home it became a general and favourite remedy. The caustic employed by the two latter surgeons was the nitrate of silver, which they applied to the strictured part of the urethra by means of the armed bougie. But this mode of applying the lunar caustic is universally acknowledged to be open to many serious objections. Indeed, it appeared so defective to Ducamp, an eminent French surgeon, whose Treatise on Stricture, published in 1822, is of standard merit, as to call forth the following severe but just censure* :—

"This is certainly a very simple pro-

* "Certes, voilà un procédé fort simple, mais peu digne, il en faut convenir, du plus éclairé des arts! Introduire un caustique dans l'urètre et le pousser en avant sans savoir ni ce qu'on épargne ni ce qu'on détruit est une manœuvre grossière indigne du haut but de la chirurgie, et peu propre à honorer celui qui l'exerce."—P. 120.

ceeding; but, it must be confessed, one little worthy of the most enlightened of the arts. To introduce a caustic into the urethra, and to push it onwards without knowing what it spares or what it destroys, is a coarse manœuvre unworthy of the high aim of surgery, and little calculated to honour him who exercises it:" and yet, at the present day, with few exceptions, the introduction of the armed bougie is the only mode of applying caustic known and practised in this country, no other plan being alluded to in recent works of high reputation *.

Believing that the disrepute into which the treatment of stricture by the nitrate of silver has fallen in England, originates in its former abuse, and in the imperfection of the apparatus employed for its application, and that a valuable remedy is neglected, I venture to offer to the notice and consideration of this Society a few observations on its employment in strictures and other affections of the urinary organs.

On the employment of the Solid Nitrate of Silver in the Treatment of Strictures of the Urethra.

The contraction in the canal of the urethra constituting a permanent stricture, is owing partly to a change in the mucous membrane itself, and partly to an alteration on its adherent surface, both the result of chronic inflammation. In the early stage, and in the slighter cases of the disease, the contraction is caused by a thickened and injected state of the mucous membrane only; but at an advanced period the disease is more deeply seated; there is, in addition, a thickened, indurated, and hypertrophied state of the submucous cellular tissue, and sometimes, in the worst and more aggravated cases, a deposition into, and induration of the spongy tissue around the canal. We have here, then, two distinct lesions to remove; one superficial, and easily reached by local applications, the other situated beneath the mucous membrane, and only capable of being directly acted upon after its destruction. Our object is to alter the morbid condition of the mucous surface, and to obtain the removal of the indurated tissue which contracts the passage. By means of dilatation a mechanical effect is produced. The thickened parts are stretched and distended, and the canal forcibly enlarged to its former dimensions. But this, surgeons well know, is far from being a cure of the disease; and the treatment must be long continued, in order to bring back the urethra to its original state, and prevent a ready tendency to relapse. It is even a question whether the entire removal of the thickened tissue, which alone constitutes the perfect cure of permanent stricture, is ever accomplished by means of dilatation *. This process leaves untouched the principal seat of the disease—the submucous cellular tissue; and, if completely successful, acts by promoting absorption of the thickened parts, which, in structures so lowly organized, is necessarily a very tedious operation. Without doubt, at an incipient period, when the mucous membrane is the only part at fault, the disease can be completely and permanently cured by dilatation; but in those cases which we more commonly meet with, where the contraction has been of very slow and gradual formation, and where there is decided induration and thickening, it is but seldom that the urethra perfectly recovers its healthy state. The history of strictures of a similar pathological nature in other mucous canals, as in the œsophagus and rectum, tends to corroborate the justness of this observation. Still, this mode of treating strictures will ever be resorted to by practitioners; and it is, indeed, one that we can least afford to part with. For although mechanical dilatation cautiously and skilfully employed does not often effect a complete restoration of the canal of the urethra, yet it generally succeeds in bringing back the passage to its original dimensions, and, by care on the part of the patient, and occasional attention on that of the surgeon, a relapse may be prevented, and life may be passed in comparative comfort, if not in total freedom from the disease.

By means of cutting instruments we can at once reach the seat of disease; but the difficulty of limiting the extent of the incision to the morbid structures, and the danger to be apprehended from too free a division of parts, has hitherto prevented its general adoption. That

* Mr. B. Phillips' Treatise on the Urethra is, I believe, the only recent English work in which the improved method of employing the caustic is described and recommended.

* Soemmerring, in his Treatise on the Diseases of the Bladder and Urethra, remarks—"It is a law in pathology, that canals destined to give passage to a liquid never return to their original diameter when once their structure has been sensibly altered. Nature is always at work to obliterate them, in increasing the thickness of their walls."

the treatment by incision is calculated to prove of essential service in certain cases of stricture, is incontestible; and the evidence of its utility afforded by Mr. Stafford, who has revived and improved the operation, is most satisfactory. Where they can be practised, free incisions are, next to complete extirpation, the most effectual mode of getting rid of an indurated and hypertrophied condition of the cellular tissue; and in cases of old and extensive strictures, where there is an irregular tortuous canal with walls formed by a firm indurated structure that cuts like cartilage, incisions may be made previous to the employment of dilatation, with advantage, and even safety. In such cases, it is a more effective proceeding, and one much less liable to produce permanent injury, than forced catheterism, although it is too hazardous a remedy to be resorted to in any but severe and aggravated cases of this description.

There is, however, a certain class of cases, or rather there are certain states and stages of the disease, to which neither dilatation nor incision are applicable, but which may be very advantageously treated by the nitrate of silver. In order to estimate its value as a remedy in stricture, it is necessary to consider the nature of the action of the nitrate of silver when applied to a diseased mucous membrane. This cannot be observed to better advantage than after its application to the thickened and granular conjunctiva of the eyelids. On lightly touching a mucous surface with the solid nitrate of silver, the part presents almost immediately an opaque white colour, from an instantaneous chemical action and the decomposition of the salt. The application is rarely followed by any accession of inflammation, if care be taken that the healthy mucous membrane remain untouched. On the contrary, the morbid condition of the membrane is in general soon removed by the repeated use of this remedy. Similar beneficial effects are found to ensue from its application to relaxed tonsils, and the vagina, when the seat of obstinate discharges. I have likewise found the application of the nitrate of silver of essential service in correcting the thickened and injected state of the mucous membrane which often exists in prolapsus of the rectum, and I have at all times used it freely without any injurious results. When the mucous membrane is thus lightly touched, the nitrate of silver seems to produce a favourable alteration in the action of the vessels of the part, and to diminish its morbid sensibility without acting as an escharotic. If, however, the nitrate of silver be kept in contact with the mucous membrane for a longer period, the tissue itself is chemically acted on and disorganized. A portion is destroyed, and afterwards separates in the form of a slough. It was for this purpose that the nitrate of silver was employed by Sir E. Home in cases of stricture. He applied the lunar caustic over and over again, and kept it in contact for upwards of a minute, in order to destroy altogether the morbid structures, by which means he hoped to get rid of the disease. It is obvious that before the thickened submucous tissue which is the main cause of obstruction can be reached and acted on, the mucous membrane covering it must be first destroyed. Now, after its destruction and separation, the healing process, the formation of a cicatrix, must tend materially to contract the passage. We know, notwithstanding assertions to the contrary, that a stricture apparently cured by caustic is fully as liable to return as when treated in any other way; and pathological investigations have satisfactorily established, that the repair of a breach of surface in a mucous membrane is always accomplished at the expense of the surrounding tissue.

The objections to the armed bougie are numerous and important. In passing the caustic down to the contracted part of the urethra, whatever care may be taken, it is impossible to avoid touching the healthy mucous membrane before the instrument arrives at the stricture, the consequence of which is, that more or less inflammation is usually excited. The form and situation of the contraction in the canal being very variable, we cannot be certain, when applying the caustic, that it presses only on the diseased and indurated structures; there is necessarily, therefore, great risk of its being forced through the sound membrane at the side of the stricture, and making a false passage and exciting serious inflammation. If, too, a false passage already exist, the armed bougie is very liable to be passed into it, in which case the dissolved caustic would materially aggravate the mischief. To these cogent objections it

may be added, that in consequence of the wax, of which the bougie is composed, becoming softened by the heat of the urethra, there is some little risk of the portion of lunar stone being detached and left loose in the canal, an event which might be followed by serious consequences. But were it possible to avoid all these risks, as the caustic is brought into contact only with the anterior part of the stricture, and acts upon the contraction from before backwards, it is by no means adequate to the removal of old and extended strictures with quickness and certainty. Indeed, we find it stated by Sir E. Home, that in many cases, in which the induration and thickening were considerable, several hundred applications were required before the stricture could be penetrated; yet, when used even in this defective manner, it often proved, in certain cases, of essential service in allaying morbid sensibility and subduing spasm, although the risk that was incurred could scarcely counterbalance the benefit obtained. After the publication of Sir E. Home's Observations on Stricture, the lunar caustic came into general use; but as it frequently failed in overcoming the obstruction, and as accidents of the kind alluded to often occurred and were sometimes attended with fatal results, this unsafe practice, in the course of a few years, was almost entirely abandoned; and I can confidently state that, for the last ten years, I have not known half a dozen cases in which the armed bougie has been employed in the treatment of stricture. In France, with the improved instruments directed by the skilful hands of Ducamp and Lallemand, the lunar caustic was applied with far better effect and greater safety, and overcame impediments which would have been assailed in vain with the armed bougie. Nevertheless, experience has fully shewn that the nitrate of silver, when employed as a destructive agent, is applicable to but few cases, and neither a safe, sure, nor effectual remedy.

The nitrate of silver must be considered as acting in stricture in two ways: 1st, by modifying the action of parts; and 2nd, by destroying the thickened tissues. The influence which it exerts in modifying the action of parts, constitutes what I believe to be the most valuable of its properties, but one which has not been sufficiently appreciated by practitioners. In stricture, the mucous membrane, both at the seat of contraction, and behind or towards the bladder, is often in a condition somewhat similar to that of the lining membrane of the eyelids, in the morbid state known by the name of *granular conjunctiva*. It is swollen and injected, highly sensitive, bleeds readily when touched with instruments, and furnishes a purulent discharge. Now it is this morbid condition of the mucous membrane that the transient application of the nitrate of silver is peculiarly adapted to correct; and it was in cases where I had reason to believe that the urethra was in this state, that I found the lunar caustic of most signal service. It relieves the morbid sensibility, prevents spasm, removes the hæmorrhagic disposition of the vessels, and tends to restore the thickened and injected state of the membrane. The mode of applying the lunar caustic which I have adopted for some time is by means of the improved instrument of Lallemand, of Montpelier. It consists of a straight platina canula or tube, rather smaller than a middle-sized catheter, through which plays a caustic holder, in the further extremity of which there is a narrow grove, eleven lines in length, for the purpose of holding the caustic. After filling the groove with the nitrate of silver by fusing it over a spirit lamp, it becomes so securely fixed that there is no danger of its escaping. At the other end there is a sliding screw or stop, by which the action of the remedy may be limited to any extent less than the length of the groove which contains it. Another sliding stop affixed to the canula serves, after the distance from the meatus of the part to be cauterized has been ascertained, to prevent the instrument passing further into the canal. In employing this instrument I proceed as follows:—I first pass a wax bougie down to the stricture, in order to ascertain its distance from the meatus, which I mark with my finger nail. I then regulate the caustic holder according to the extent of the urethra that I wish to touch, and having closed the instrument so as to conceal the caustic, I fix the sliding stop on the canula, at the exact distance from the extremity corresponding with the mark on the bougie. Having introduced the instrument thus prepared as far as the stricture, I push forward the caustic holder, and after rapidly making one complete turn, I instantly close the instrument, and then withdraw it. It will

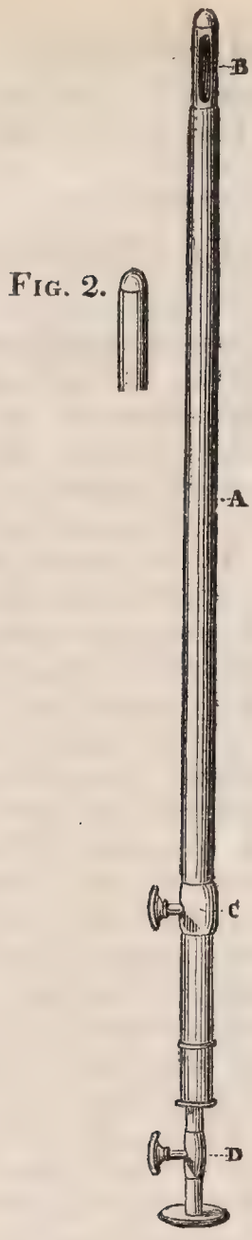


FIG. 1.

FIG. 2.

FIG. 1.—*Instrument for applying the Nitrate of Silver to the Urethra, reduced in length one-third.*

A. The canula.
B. Groove for holding the caustic.
C. Sliding stop on the canula for regulating the distance that the instrument is to enter the urethra.
D. Sliding stop on the further extremity of the caustic holder to limit the action of the caustic.

FIG. 2.—*The extremity of the Instrument when closed and ready for use.*

be readily perceived that the great advantage of this instrument consists in its enabling the surgeon to limit the action of the caustic to the part diseased, and to as small an extent as he pleases. Thus by rotating the caustic holder, the lunar stone may be applied to the whole circumference, to one side, or to some particular part of the canal, whilst its action may be extended to any part within reach of the instrument. It may be objected that the instrument being straight, it is not adapted for the treatment of strictures seated at the curved part of the canal. Those, however, who have been at all accustomed to pass straight instruments into the bladder will seldom experience any difficulty on that account in using this. The enlargement of the prostate gland which offers the chief impediment to the passage of straight instruments into the bladder, scarcely interferes with the application of the caustic, for the contraction in the urethra is always anterior to the prostate, and enlargement of this gland is rather a rare complication of the disease. Instruments for applying the caustic are made of a curved form; but as this shape effectually prevents the rotation of the caustic holder, the nitrate of silver can only be brought into contact with one particular part of the canal. Hitherto I have found the straight instrument to answer exceedingly well in every instance in which I have had occasion to apply the caustic. It is necessary to remark that this instrument should never be used until we can permeate the stricture with a small bougie.

I will not occupy the time of the Society by detailing cases, in which the good effects of this mode of employing the caustic in stricture have been experienced. It is sufficient to observe, that in cases where the presence of a wax bougie in the canal could not be tolerated without occasioning great suffering or painful spasms, one or two applications of the caustic have removed the morbid sensibility, and enabled me to proceed with dilatation in the ordinary way. The striking effects of the caustic in many cases of stricture have been particularly noticed by Sir B. Brodie*. He observes:—"The benefit which the patient derives immediately from the application of the caustic is sometimes very remarkable. He may apply to you making water in a stream, like a thread, or only in drops; you apply the caustic, and in a few minutes afterwards he has a desire to discharge the contents of his bladder, and he finds that the urine flows in a very considerable stream." He further states, (p. 55):—"The caustic may be used very properly in some cases of stricture which are endowed with peculiar irritability, in which every application of the common bougie induces severe pain, or brings on spasm, preventing it entering the stricture. Two or three applications of the

* Lectures on the Diseases of the Urinary Organs, p. 54.

caustic may be sufficient to deprive the stricture of that unnatural sensibility, which otherwise would have foiled your efforts to effect a cure." Notwithstanding the good effects here pointed out, Sir B. Brodie says that he rarely uses the *armed bougie* in his own practice, because, although the caustic often relieves spasm, it also very often induces it, and because it is liable to bring on retention of urine, hæmorrhage, and rigors, and cause the formation of abscess. Now the improved method of employing the lunar caustic is certainly free from these serious objections. When applied in the transient manner that I have recommended, the caustic usually occasions a sharp smarting sensation, which subsides in about four or five minutes. In only one instance have I known it bring on retention of urine, and this was soon relieved by the hip bath. I have never found it produce either bleeding or abscess. In one remarkable case of stricture anterior to the bulb of the urethra, in which the introduction of an instrument in the most gentle manner, was always succeeded by hæmorrhage, which sometimes amounted to two or three ounces, the condition of the parts was so completely changed by three applications of the caustic, that in a short time metallic instruments could be passed, and the stricture dilated without the loss of a drop of blood.

In thus calling attention to the use of the solid nitrate of silver in the treatment of strictures in the urethra, it must be obvious that my object is not to propose it as a substitute for other remedies, but rather to shew with how much advantage it may be brought to their assistance. That it is calculated to obtain most beneficial results in certain states and forms of the disease, the concurring testimony of those who have resorted to it leaves no doubt. That its employment is attended with danger, and is often productive of serious evils, can now therefore be no longer regarded as grounds for excluding this remedy from our practice; and I feel convinced that those surgeons who may be induced to make trial of the improved method of applying the lunar caustic, in appropriate cases, will meet with all the success which they can reasonably expect, and will find it both a safe and manageable remedy.

[To be continued.]

ACARUS SCABIEI.

CAN MAN CONTRACT THE ITCH FROM BRUTES, OR THE LATTER FROM THE FORMER?

To the Editor of the Medical Gazette.

SIR,

THE above evidently embodies two distinct queries. First, Is the itch communicable from animals to man? Secondly, Admitting or denying this to be the case, does it follow that the latter can or cannot communicate scabies to the former? We will direct our attention at present to the first of these questions, viz., Can a mangy animal communicate scabies to the human subject? Before entering in *medias res*, I would premise that this is not contrary to analogy, but is rendered probable by what is known and admitted to be the case with regard to vaccinia, rabies, and glanders. This probability is strengthened by what has been observed of the habits and properties of those acari which infest man and animals:—they attach themselves readily and almost immediately to any object which is placed in their way, and they are remarkably tenacious of life, especially those of the sheep and horse. It is highly probable, therefore, that when transplanted from one animal to another of different genus, they may continue to live for a considerable period, under circumstances so nearly allied to their natural condition, and yet be incapable of producing another generation. We will now see whether any evidence can be adduced in confirmation of this opinion. Instances of the horse acarus being communicated to the human subject have been recorded by many writers; among others, by E. Viborg*, Sich†, and Greve‡. The following case, which I have taken from Dr. Willis's translation of Rayer's work on Cutaneous Diseases, was first published by R. Fauvet, in the *Annali Universali di Medicina*, 1823, and has been thence copied into several French and German periodicals:—

"In the month of January 1820, a farmer bought a horse affected with the

* Sammlung von Abhandlungen.

† Erfahrung und Beobachtungen über die krankheiten der Hausthiere. Oldenburg, 1818.

‡ Unterricht fur die Landwirthe zur Abwendung und Heilung der in Kriegeizeiten vor kommenden Vichkrankheiten. Berlin, 1807.

itch at the market of Bergamo, which he mounted to return to his home. The day after his arrival, he experienced great itchiness over almost the whole of his body; the same symptom was further complained of by his son and a friend who had accompanied him to market. The stable-boy, too, to whom the horse was given in charge, began to scratch himself incessantly within two days; so did a labourer, who had used the brute in some field work during a few hours; and this went on till more than thirty persons, and several other horses attached to the farm, were infected with itch. The mangy animal was therefore got rid of, and being sold to a miller, he and his men were forthwith attacked with itch, merely from having put their hands on the back of the purchase. A cow also, which had rubbed her neck against the manger of the horse, contracted itch like the rest." Hertwig *, of Berlin, relates that he once saw the disease communicated to a horse by a cat which had lain on his back while he stood in the stall. The same authority declares that he himself has had personal experience of the infectiousness of this disease, and relates the following experiment which was made by Herr Schade, a veterinary student of Berlin. Eight horse acari, of both sexes, were placed on the skin of the arm, and confined there by a piece of fine paper fastened on by means of adhesive plaster: "Five minutes after, a terrible itching arose, which continued, with periodical increase and decrease, for five days. After the lapse of thirty-two hours, only four of the acari were to be found on the skin. Several elevated red spots, of the size of a pin's head, were, however, visible on it, and on one of these, the head of which was slightly tinged with yellow, were two minute eggs, while, in the neighbourhood of these spots, were to be seen small hair-like passages. On the fifth day these passages were more perfectly formed, and were easily perceptible with the naked eye. One of them was nearly three-fourths of an inch long, and divided at the end like a fork; they all looked like smooth, red, slightly elevated lines, passing in different directions. When cut through with a lancet, they were found to be hollow, and sometimes in, and sometimes immediately under the outer skin. On these passages, or rather near to them, were small bladders, which contained a clear fluid. The acari were neither to be found on the skin nor in the passages or bladders. From the fifth until the twelfth day the irritation gradually diminished, and at length entirely ceased. The bladders gradually dried up; the passages became less visible; and on the twelfth day the upper skin appeared covered with little dry scabs, which easily loosened themselves, and left behind a healthy skin."

Professor Hertwig remarks on this experiment, that it proves that horse acari will pass on to the human being, and thereby cause an itchy eruption on the skin; and also, that in many cases the disease is not of long duration, and will get well of its own accord. But, in opposition to this last inference, Greve states that in many cases the disease produced in the human subject by horse acari will last from three to eight weeks.

We have hitherto confined our attention to cases of scabies communicated from the horse to man; but are horses the only animals capable of communicating it? The following facts will answer.

M. Biett* relates that, in 1827, ten *employés* of the Musée d'Histoire Naturel were admitted into St. Louis, very severely affected with itch, which they had contracted from some camels they tended, that had recently arrived from Africa; he likewise mentions another case of a child, not quite four years of age, who had evidently contracted the disease from a dog which he was constantly caressing. M. Fournier, in the article "Gale," of the Dict. des Sciences Médicales; and M. Rayer, in his work on Cutaneous Diseases, both refer to a case of scabies, which was produced in one of the *gardiens* of the Jardin des Plantes, who was charged with preserving the skin of a phaseolome, that had been accidentally killed by the elephant while labouring under mange. Sauvages† speaks of a Scabies canina, and S. felina; and after describing the symptoms of the latter, which were observed in an epidemic that prevailed among cats, observes, "Morbus contagiosus erat; interea qui seorsim custodiebantur ab hoc immunes non erant." Dr. Mason Good‡, in his Study of Me-

* Veterinarian, vol. xi. (vol. vi. New Series).

* Dict. de Médecine, art. *Gale*.
† Nosol. Méthod.
‡ Vol. v. p. 648.

dicine, has recognised a variety of scabies, contracted from animals; he names it S. exotica, and thus characterizes it:—"Eruption, chiefly of rank, numerous pustules, with a hard inflamed base, rendering the skin rough and brownish; itching extreme; abrasion unlimited, from excessive scratching. Produced by handling mangy animals*." Bateman, too, although he has not classed it in his Synopsis as a distinct species, yet, in his Delineations of Cutaneous Diseases†, gives a drawing of what he calls S. porcina, from the circumstance of the man whose case it was intended to illustrate having contracted it from a mangy hog. These are but a few of the cases upon record; but I think they are sufficient to give an *affirmative* answer to the question we set out with, viz. Can a mangy animal communicate scabies to the human subject? It must not be denied, however, that several writers have contended for the impossibility of the transmission we have beeu speaking of; Rayer says, that skilful veterinarian, Leblanc, shewed MM. Sabatier, Littré, and himself, several itchy dogs, calling their attention to the fact, that the man by whom they were tended and rubbed, had not contracted the disease, in the present and many preceding instances; while a dog, from having slept on the straw which had littered one of the mangy animals, was seized shortly after. The experiments of Gohier, who endeavoured to inoculate animals of one genus with the acari of another, tend likewise to strengthen this opinion. But it is time we turn our attention to the remaining part of the question, viz. Can a man affected with scabies impart the same to a brute? Some writers assure us that dogs have contracted this disease from their masters; but I have been unable to meet with a well authenticated instance of this upon record, nor has such a case fallen within the observation of that distinguished veterinary surgeon Mr. Youatt; yet if we admit the possibility of acari from animals locating themselves on the human subject, and producing thereby an itchy eruption, bearing so strong a resemblance to scabies that all authors have agreed in giving it this name, it is surely not impossible that the sarcoptes hominis may have been transferred to animals, and thus produced in them an analogous disease. But this is arguing for the parasitic origin of scabies; which if we deny, will oblige us to seek for some other cause to explain the transmission we are supposing to take place: in this case I grant the possibility is considerably diminished, for we must then presume the fluid of the mangy sores to be the contagious principle—a presumption highly improbable. If the serosity taken from the vesicles of scabies in the human subject is inadequate to produce that disease in an individual of the same species, *à fortiori* it must exert still less power in inoculating animals, which are confessedly and notoriously exempt from the contagious influence of morbid human poisons. Except the saliva of a rabid man, I am not aware that any other morbid fluid of our species is capable of communicating a disease to the brute, analogous to that by which it was secreted: two of the most active and baneful of these poisons, to wit, those of syphilis and variola, produce no effect when applied to the organs of generation and skin of animals. With these facts before us, then, we are bound to reject this explanation of a not improbable hypothesis. What now is the *resumé* of this and the two preceding letters, and what conclusions may we thence deduce?

1st. That parasitic insects, called acari, or sarcoptes, are met with in many cases of scabies, but in no other disease.

2d. That our not being able to detect them in every case, does not warrant us in denying their presence at some period or other of the disease; nevertheless, till such presence be demonstrated, we are justified in withholding our assent to their being the sole cause of scabies.

3d. That the acari are never found within the vesicle or pustule, but at one of the extremities of small hair-like passages, "cuniculi," in the vicinity of the vesicles or pustules.

4th. That placed on the skin of a

* Professor Hertwig states, that the most important difference between this variety and the ordinary itch consists in the former spreading over the face and head, which is not the case with the latter. It is also generally agreed to be more severe; and, if Chabert is to be relied on, this holds good with regard to the itch that is produced in an animal from one of a different genus: he says, when the horse and sheep contract it from the dog, it is exceedingly obstinate, and often produces terrible effects.

† Plate 46.

healthy individual, they excite a disease in the part to which they are confined, having all the characters of scabies.

5th. That acari taken from mangy sheep, horses, and dogs, and transplanted to healthy individuals of the same species, produce in them a disease analogous to that in the animals from which they were taken.

6th. That the fluid contained in the vesicles or pustules of itch, and in those of mange, fails in producing these diseases when rubbed into, or inserted beneath, the skin of man and animals.

7th. That there are too many well-attested cases on record to permit us to doubt of scabies having been communicated from animals to man; yet there is evidence to prove that mangy animals may be handled with impunity by some individuals.

8th. That itch may be communicated from man to animals is not improbable; but we have no facts at present to verify this supposition.

Your obedient servant,

C. Holthouse.

13, Keppel Street, Russell Square,
Jan. 11, 1839.

QUACKERY.—CURE OF CONSUMPTION.

To the Editor of the Medical Gazette.

Sir,

The writer of the able article on "Quacks and Quack Medicines" in three recent numbers of the Penny Magazine, has laid the profession under great obligation to him for his accurate exposition of legalised imposture. In the 433d number the subject is concluded —at least it is so announced. This, let us hope, will not be the case, for the existence of such names as Roget, Thomson, and Elliotson, upon the Committee, will be a sufficient guarantee for the subject being taking up again by the Society for the Diffusion of Useful Knowledge. Some legislative enactment may probably regulate ere long the sale of patent or secret medicines, so as to prevent or diminish the mischief, nay murders, tolerated merely for the sake of the paltry pittance of £50,000, as an additional item in the revenue of this vast empire. But we must remember that there is a species of quackery beyond the pale of any national law, which can only be diminished or eradicated by an increase of knowledge among the public at large. The notoriety of St. John Long and Morison will soon remain a mere matter of history. However, "more yet remains to conquer," and the excellent practical remarks of Dr. James Johnson, at the Westminster Medical Society, should not be allowed to fall to the ground. Dr. J. stated the mode pursued by a certain physician in "curing" consumption. This physician instructed his patients to inflate and distend the lungs by mechanical expansion, by which force Dr. J. believed that inflammation around the tubercles was increased, and their development in many cases hurried. He had seen patients dying with consumption, whom that physician, two or three days before death, buoyed up with promises of recovery. Most practitioners have had opportunities of confirming the observations of Dr. Johnson. Among others the following came under my notice. A respectable tradesman of this town, having been under the care of myself and another physician for confirmed phthisis, which was evidenced by cavernous respiration below the right clavicle, the whole of that side of the thorax being dull on percussion, with scarcely any respiratory murmur, he was advised to consult Sir James Clark, and he passed through London, with a view of trying a change of air in the south of England. The advice of his medical attendants was not followed, and he went to a consumption curer, who directed him to blow through a tube for half an hour or more, daily. The poor deluded man found the promises of cure made but to be broken, and he returned home minus several guineas, to die in the course of a few weeks.

An agricultural labourer, presenting on minute examination no leading symptoms but those of confirmed hypochondriasis, with its concomitant, gastro-intestinal irritation, was sent, owing to the failure of the usual treatment, at the expense of his parish, or rather a private subscription among the overseers, and some of the principal inhabitants, to be cured in London by the same individual. The doctor, after pocketing a few fees, furnished by the generosity of the overseers, dismissed his patient with his "consumption cured." Soon after the

man's return from London, his hypochondriasis became more confirmed, and though I have lost sight of him for some time, it is not improbable that his mental depression may lead to the generation of tubercular disease, a phenomenon by no means rare in the history of phthisis. A lady, in this neighbourhood, whose pulmonary affection was limited to bronchial irritation, or bronchitis, consulted the same individual. She was proclaimed to be labouring under pulmonary consumption, was directed to expand the lungs mechanically, as the other patients had done, and her recovery added to the long list of wonderful cures.

In the medical chronology of the British Almanack, for 1837, it is recorded, that Bernard Gordon, a professor of Montpelier, published in 1309 his Lily of Medicine (*Lilium Medicinæ*) in which he recommended "si tussiculosus fuerit pauper, retineat frequenter anhelitum, quantum erit possible. Et, si sic non curetur, sufflet ignem quotidie, sine omni pietate, curabituret" So that this rational (?) method of mechanically distending the lungs has some antiquity for its merit.

I need not tell you, Mr. Editor, that the Penny and Saturday Magazines are admitted into almost every family in the empire. And let me observe, that articles composed in the lucid, popular style, that distinguishes those periodicals, would be of essential service at the present moment, and tend to vindicate the science and honour of the profession against the presumption of mercenary impostors.

"Quackery—the Cure of Consumption," would be a good title for an article of the kind.—I am sir,

Your obedient servant,

Wm. England, M.D.

Wisbeach, Jan. 7, 1839.

USE OF THE STOMACH-PUMP IN APOPLEXY.

To the Editor of the Medical Gazette.

Sir,

You will oblige me by inserting the following remarks, for which I do not claim so much originality, as the consideration from many of my professional brethren of cases often looked upon as hopeless.

It has more than once been my lot to have witnessed diseases about to terminate in death—when the *power of swallowing* is entirely lost, or so oppressed, that if not forcibly aroused into action, it may be considered so—when, nevertheless, by the introduction of stimulants through the pipe of a stomach-pump, or any suitable instrument, the person may be rescued from the very jaws of death. Such circumstances of approaching and certain dissolution present themselves in many cases of apoplexy from deranged stomach, and in those of sudden prostration of the vital power, occurring in persons of advanced age. Allow me, for the sake of illustration, to give you an example of each of these.

I was called in to a gentleman who, after a hearty meal, was attacked with the symptoms of apoplexy. Salt and water having been given to him, and failed in inducing vomiting, the fauces were irritated by means of a feather—and succeeded. He became, however, worse, and entirely lost the power of swallowing. This was in the evening. At 6 o'clock in the morning he appeared to be in *articulo mortis*, and I thought that before the two medical gentlemen, who had seen him with me on his first seizure, and who were again to visit him at half-past nine, arrived, my patient would be no more. But he rallied towards 8, and when they met, more hope was entertained of his life than when they saw him last.

At 11 o'clock, however, he began again to sink, and at 12 o'clock at night died; the power of swallowing never having returned after 7 on the preceding evening. I mention this to give weight to the conviction which I now express—that had wine-whey been judiciously given him, by means of a suitable instrument, and after vomiting had been produced, he would not have died.

Of the second form of disease—viz. sudden prostration of the vital powers, in persons advanced in life, the following is an illustration. Mrs. ——, 80 years of age, was seized suddenly by what appeared to be paralysis. Her usual attendant living at some little distance, I was also sent for. Her hands and feet were cold, and the pulse scarcely discernible. I tried to get a few spoonfuls of brandy and water down the throat, *but no effort was made to swallow it*, and it flowed out again over the corner of the mouth.

As I lived close at hand, my stomach-pump was soon brought me, and I passed the pipe over the back of the fauces.

This irritation induced an attempt at deglutition, which I immediately took advantage of, and gave her the brandy and water. She recovered, and never did I witness a narrower escape from death. I am quite satisfied, that had she not taken that brandy she would not have been now living.

To conclude, I do not think this treatment is to be confined only to cases of the nature I have mentioned. I have not given other illustrations, because I fear to occupy your useful pages longer; neither do I wish to consider myself as the only person who has thought of or adopted such a method of treatment; it may have been carried into effect by others; but I have not known it to have been done here, and it may not generally be thought of. Should these remarks draw others to the consideration of such a mode of preserving human life, my object will have been answered, and you will not have been troubled in vain.—I remain, sir,

Your obedient servant,

JOHN PARKES.

2, Church Street, Edge-hill,
Liverpool, Jan. 9, 1839.

OBSERVATIONS

ON THE

ANATOMICAL AND PHYSIOLOGICAL NATURE

OF

THE ERGOT OF RYE AND SOME OTHER GRASSES.

BY EDWIN J. QUEKETT, F.L.S. &c.

Lecturer on Botany at the London Hospital and Aldersgate School of Medicine.

[Abridged from a Paper read before the Linnean Society, Nov. 4, 1838.]

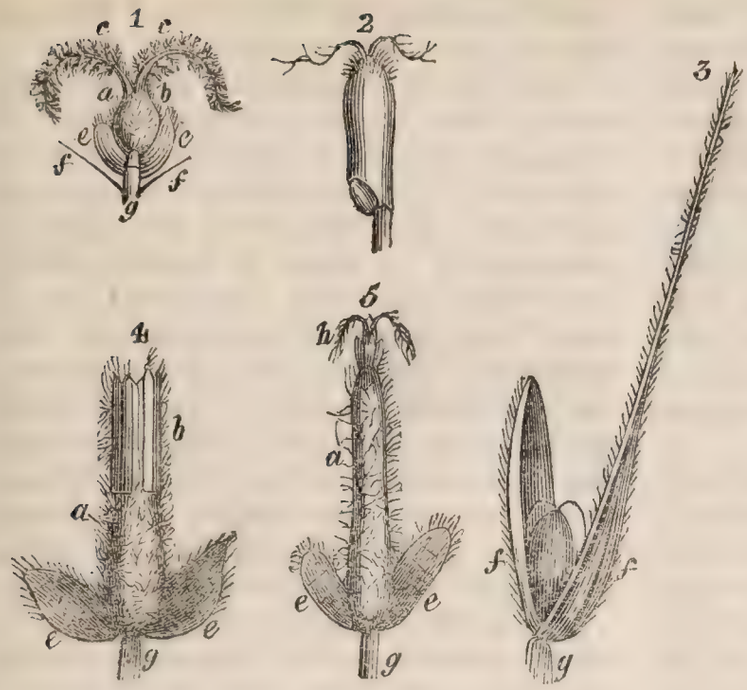
THE investigation of this peculiar formation has often occupied the attention of both English and foreign botanists, with the view of determining its nature and origin; yet notwithstanding the mystery belonging to it has not been completely removed, the observations of some of the later authorities have gone far towards our viewing this substance in a clearer light, especially those of Dr. Phœbus, in the *Deutschlands kryptogamische Giftgewächse*, and of Philippar, in his "*Traité Organographique et Physiologico-agricole sur l'Ergot, &c. dans les Cereales;*" from both of whom we learn much interesting matter, and also the history and former hypotheses of the ergot, which here will be omitted, for the sake of shortening this communication.

After many attempts at the examination of the ergot of rye in the state it is generally found in the shops, I could never succeed in finding any thing from such specimens, respecting its structure, that served to identify it satisfactorily with any other vegetable production; consequently it has long been my wish to obtain recent specimens of the rye, or any other ergotized grass, in order to trace the growth of the ergot from its first commencement, which I have this year been enabled to do; and one grass in particular, the Elymus sabulosus, a plant much larger than the rye, has afforded an excellent illustration of the growth and development of this anomalous formation.

In order to trace the ergot through its several phases, it is necessary to become acquainted with the normal size and characteristics of the grain of the several grasses, in its various stages, whilst healthy, and also the same conditions of its appendages, which may be probably understood from the figures and following description. When this examination is made at an early period, it is found that the young grain of the rye is composed of a body or ovary minutely hairy, and of an oval form (fig. 1, *a*), which is surmounted by a small crown of stiff hairs (*b*), from amidst which the two styles (*c c*) bearing plumose stigmas, take their origin from the apex of the grain; at this time the embryo is almost invisible; its place is seen at (*d*); below the grain can be observed the apex of the minute stalk or receptacle (*g*) on which it rests, and from which arise the two scales (*e e*) that cover the base of the ovary; the lines (*f f*) in fig. 1, show the position of the paleæ (*f f*, fig. 3). All of these organs, as well as their position and structure, it is necessary to bear in mind, in order to judge of their alteration in the diseased state.

When the grain of rye is matured, it frequently retains the remains of the stigmas and its hairy crown, as at fig. 2, *b* and *c c*, and always presents an enlarged embryo at its base (*a*), which is joined obliquely to the albumen (*d*) above, and is articulated inferiorly, together with the albumen to the receptacle (*g*).

When the healthy condition of the



FIGS. 1, 2, 3, 4, and 5.

young grain was clearly made out, it could easily be seen when that state would be departed from by any particular grain about to become replaced by an ergot; and it is seldom that more than two or three occur on the same spike, as represented in the figure where the ergot is in its natural position.

The first appearance of the commencement of the growth of the ergot is observed by the young grain and its appendages becoming covered with multitudes of minute cobweb-like filaments, which run over all its parts, cementing anthers and stigmas together (fig. 4, *a*), and with a white coating, which appears as if plastered on or left by the evaporation of some liquid, and stuck to the surface of the body of the young ergot, completely concealing it from view, as represented fig. 4, *a*. This white covering could be most easily detached by placing the infected grain in a little water, when countless numbers of minute particles would be loosened from its surface, and ultimately subside to the bottom of the vessel containing the fluid.

On many parts of the spike of the elymus, as well as on the rye, can be observed a viscid fluid, which, according to Philippar, oozes out of the ergot in the stage just described; and the greater the quantity the finer the ergot will be in that particular flower. This liquid is in abundance on the elymus, and in the morning, numbers of drops can be collected. I have rather given this an external origin, from the water of dew or rain becoming charged with the particles whilst lodging on the plant*; for my specimens, when cut and placed in water, though they kept alive, exuded no viscid liquid whilst in doors; however, it may arise from the young ergot, as Philippar says, for I have not had many opportunities of watching the increase of this fluid on the growing plant. This fluid is slightly sweet, and contains myriads of the same particles

* It was found that when water is charged with a sufficient quantity of the particles adhering to the ergot, that it becomes viscid and sweetish, and evaporates very slowly; in fact, resembles the fluid that is observed on the exterior of the flowers of ergotized grasses.

as are deposited on the outside of the ergot. The axis of the ergot, when first appearing, is exceedingly soft; breaking easily across or in any other direction, and exhibiting, in its transverse section, a very irregular lobed or sinuous margin, of a purplish colour, which is surrounded externally by the above-mentioned filaments and particles: this axis appears to be the body of the grain, which has become now changed by the presence and growth of the particles and filaments found upon it.

At this early period the size of the ergot is very small, measuring scarcely one-fifth of an inch; still its diminutive condition seems to be most favourable for the support and growth of the particles and filaments upon its surface (where they increase most rapidly); for it is found that whilst the ergot is enlarging, there is not a corresponding increase in the number of filaments and particles, but rather a diminution of them, whilst it is advancing to maturity.

In the next stage (fig. 5) we observe the ergot is now grown to show itself just without the paleæ, and begins to show its purplish-black colour, having by this time partially lost its white coating; in fact, when the ergot becomes visible by protruding between the paleæ, the production of filaments and particles has nearly ceased, and the ergot increases in a very rapid manner, according to Philippar only eight or ten days being required to complete its development, attaining in this short period a size four or five times larger than that attained by any healthy grain of the same plant in the same period.

The last stage of the ergot is, that it has elongated much beyond the paleæ that once inclosed it; and puts on a violet-black colour, from the diminution of the filaments and particles that infested it previously. Its length is found to vary in this state from half an inch to one inch and a half, in different specimens. Its form is seldom cylindrical, more frequently obscurely triangular, each side being marked with a furrow, one of them being generally deeper, and more conspicuous than the other two: besides these natural marks, there are a variety of cracks and fissures extending in many different directions. Either end of the ergot is inclined to be pointed, but the lower end more so, and presents a rather smooth extremity or cicatrix, by which it is articulated to the receptacle, between the two scales seen in figs. 4, 5, 6, (*e e.*) which are not destroyed by the unnatural growth that springs from between them, and it is extraordinary that Philippar makes no mention of these bodies at the base of the ergot. The summit of the ergot is surmounted (in those specimens which have been carefully gathered) by a small body, which is composed of the remains of the styles, the hairy crown, and a certain portion of the withered grain, as at figs. 5, 6, (*h h*); this body does not exist on the majority of specimens that are procured in the shops, because a very trifling force is sufficient to separate it from the apex of the ergot.

These observations are such as can be easily made with very little microscopic assistance, and have been probably witnessed by those who have previously paid attention to this subject, and who have given us various opinions respecting its nature; most of which tend to the describing the ergot as a particular fungus, to which we have the different names given by the following botanists, viz. *Sphacelia segetum* by Leveillé; *Sclerotium clavus* by De Candolle; *Clavaria clavus* by Münchhausen; and lastly, *Spermoedia clavus* by Fries, who considers it more analogous to a diseased grain than to any species of fungus.

The contrary to these hitherto received opinions being about to be here advanced, from the results of many examinations of the ergot, in different conditions and in different grasses, it is fair to explain the reasons for arriving at other conclusions, and those which lead me not to adopt the views of former investigators.

It has been shown that when the young grain of the grass is examined in the healthy state, that its summit bears a tuft of hairs, (particularly evident in Elymus sabulosus), and the two stigmas which spring up amongst them, and at the base of the grain can be observed the two scales, and below the scales is the apex of the pedicel or receptacle, which serves to support the grain, the scales, and the paleæ, seen in fig. 1, and fig. 3. This structure is readily made out in the very young state of the grain, and can also be observed, only more or less shrivelled by age, in every condition of the ergot up to its maturity, when the specimens are carefully selected for the purpose, all of

which is accurately figured by Phœbus; then as these organs form the appendages at either end of the healthy grain, and they do the same in the ergot, there can be no doubt that the body between these organs in the healthy state is the grain, consequently the body that occupies the same position, but in an altered form, ought to be certainly no other than a grain, which differs from a healthy one, from having in its early state supported a parasite, which communicated to it some disease, which has perverted the normal state of its development. Notwithstanding the several parts of the grain are arranged as described, Philippar makes out the ergot, from his examinations, (which are the best of the later investigators,) to be a separate fungus; still his expressions*, are rather vague respecting it, for speaking of the ergot, he sometimes styles it "ergotized grain made up of fungic substance is the receptacle of the reproductive particles;" in another place, "that the ergot, as a fungus, springs from the receptacular point of the sexual organs;" and lastly, he sums up by considering the "ergot as being the reproductive apparatus of a fungus." Philippar's reason for considering it a fungus arises principally from the microscopic examination of the structure of the ergot, which as a fungus he describes, beginning in the receptacle of the flower, and lifting up the sexual organs, which are diseased but still remain upon the apex of the ergot, as in fig. 4; but it is found that where the paleæ are attached, and also the two scales, that this part which must be receptacle also, is not diseased, for these organs remain undisturbed; consequently it can only be the point where the grain and the receptacle unite that could give origin to any body taking the position of the ergot. Yet from this point, which is inseparable from the grain in the young state, it is most singular that in every kind of grass yet found ergotized, that the fungus should always burst through the tissue at this particular point, and at that particular time when the flower is about to expand. If it be a fungus solely, it ought certainly to burst forth as an ergot from the stem, or some other place on the several grasses, besides growing between and parting asunder two organs, which were as firmly united to each other in the young state, as the paleæ or glumes are to the same axis. Beside, the ergot, when matured like the ripe grain, slips out of the paleæ like a ripe filbert from its cupule, shewing it has no organic connexion at this period with the receptacle more than the grain had. Philippar's examination of the internal part seemed especially to strengthen his view of its being a fungus; for he describes the body of the ergot to be composed internally of branched short fibres, and globules of various sizes, round and oval, which he considered the means of its reproduction. My own observations on the structure of the ergot differ somewhat from this, by believing that the fibres described are the boundaries of irregular cells, distorted by the fungoid matter, and not fibres at all; and the globules are not reproductive bodies, but those of a fatty oil which is contained in the interior of the cells, as seen fig. 7, in a transverse section magnified 1000 times. To witness these facts, take an ergot, scrape away with a knife all its black coat, so as to remove all the particles that adhere to its surface, then make some very thin transverse slices, and put them on a slip of glass under the microscope; and when water is added to them, it speedily becomes turbid or milky, from the quantity of particles that have escaped from the sections; these particles, however, are not heavier than the water, as those on the exterior of the ergot are, but are lighter, and collect on the surface, from whence they can be removed like cream from the surface of milk. When magnified, these particles are found to be of vastly many sizes, some as large as 1-1000th of an inch in diameter, others so small as to be barely visible when viewed to the extent that optical powers can assist us, and appear, when magnified 1-1000 linear, very like the globules in human milk. When the water in which the slices have been placed is heated, these minute globules liquefy, and run together, forming either very large globules or numerous irregular masses; their primary form, by this operation, being completely disturbed, which would not have been the case had they been "seminules," or reproductive agents, as Philippar imagined. To observe the structure of the ergot, make some thin slices, then boil them in ether, which dissolves the fatty matter, and makes

* Vid. Traité Organographique, &c., pp. 121, 122, 123.

their structure become visible, which is to all appearances irregularly cellular, and not fibrous.

Another argument against the ergot being a complete fungus is, that the particles which are its reproductive agents are most numerous when it is young, and it continues its growth after their production has ceased, which is contrary to the usual law amongst this class of vegetable productions; for their efforts to live are only to develop the means for propagation, dying, as it were, the instant this action has been accomplished.

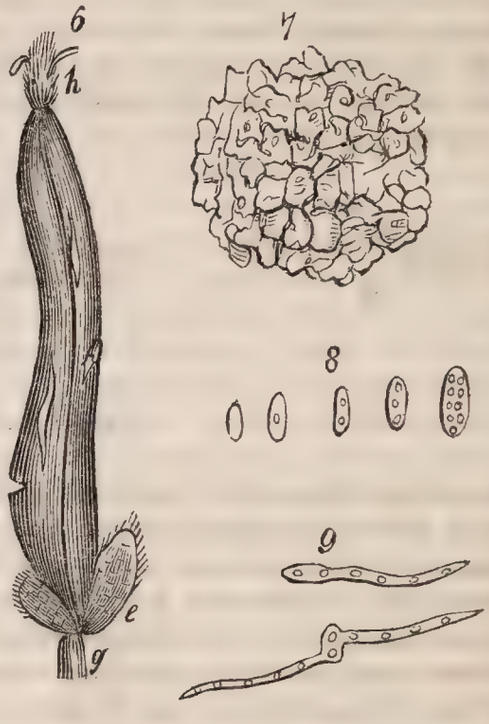
Besides these, Vauquelin's chemical analysis proves its dissimilarity in composition with the FUNGACEÆ and even with Sclerotium—a genus of that order to which the ergot was assigned by Fée and De Candolle—by containing very different constituents, which are the following:—

Colouring matter, soluble in alcohol.
White oil, very abundant, sweet.
Violet matter, soluble in water.
Fixed phosphoric acid.
Azotized matter, very abundant and alterable.
Free ammonia, at 100° Reaumur.

Thus far the arguments against the ergot being a species of fungus are taken from the body itself; but by experiments and minute examinations of the particles which separate from its surface or are found in the viscid fluid which lodges externally, additional proofs can be obtained that corroborate the former view of its nature.

When these particles are placed under a microscope, and magnified about 1000 times (linear), their minute structure becomes then discernible, and their shape is seen to be oval or elliptical, and occasionally a little contracted about midway, and contain several green granules, whose number varies in different particles; most frequently there are one, two, or three, well-defined spots in their interior, and occasionally there are as many as ten or twelve; and there can be no doubt that these minute bodies are the reproductive agents of a particular fungus, to which particles the term *sporidia* is applied, to characterize them, because their structure is unlike seeds, notwithstanding their office is the same. Various conditions of these are seen at fig. 8.

The size of these sporidia, upon an average, is about the 1-4000th of an inch in length and 1-6000th of an inch in diameter, and the number on each ergot is uncertain; but as so many have been rubbed from one specimen as would fill a square inch of surface, it is probable, from the above measurement of their size, that about 20 millions may be calculated as an average number on a full-sized specimen; and as an example of the extreme minuteness of organic matter, some of these sporidia contain eight or ten granules, which are so small, that it would require 200 millions of such to cover the same surface, their size being not more than 1-50,000th part of an inch.



FIGS. 6, 7, 8, and 9.

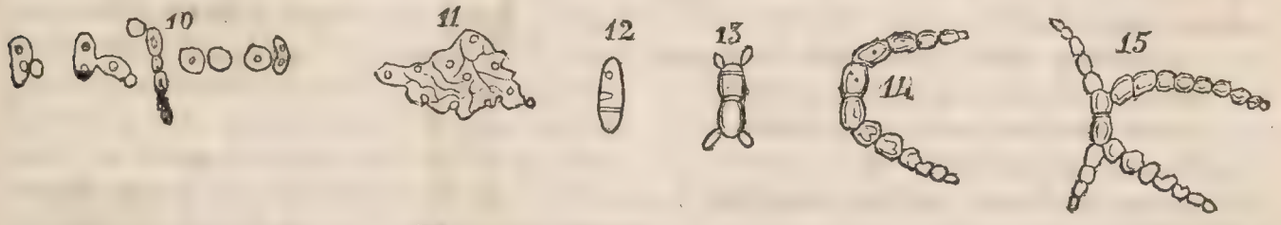
If these sporidia be kept moistened with water on any suitable surface, or on a piece of glass, which is covered with a thin piece of talc, after a time it will be observed that these minute bodies commence germinating in various ways, and with me have continued to grow in this manner nearly three months.

The most common method is that of the sporidia emitting a tube or tubes from some uncertain point or points (fig. 9), but generally opposite the spot where a green granule is lodged in the interior. This tube increases to an indefinite length, and contains throughout its interior similar green granules, arranged at short but generally equal distances, about as far from each other as they are in the interior of the sporidia; and I believe that this tube ultimately separates into fragments, constituting as many new ones.

In many other instances, the sporidia, instead of producing a tube, give origin, opposite a green granule, to a minute bud; this little point increases, and ultimately separates from the parent as a perfect sporidium, and frequently before its separation shews an indication of producing a similar one from itself (fig. 10).

Another way of increase amongst these singular germs is, that of the membrane composing the parietes of the sporidium breaking down, forming a flat patch (fig. 11), which keeps extending in all directions, and developing upon itself green granules, such as are seen in the interior of the other sporidia. These granules seem important points. and appear to be analogous to the embryo of the seeds of more highly organized plants.

The last and most remarkable manner of germination is that of the sporidia, having a septum formed across their interior, by a green granule extending itself laterally, which divides them into two parts, each of which becomes again divided by a similar process, seen at figs. 12, 13, 14, 15. By a repetition of this method there at last is formed a moniliform filament, which, though simple in its origin, ultimately becomes branched, the branchlets most commonly radiating from a central collection of cellules. These filaments are the analogues of minute stems, and at a certain age give off, from innumerable points of their surface, little germs, which in a short time increase and become perfect sporidia, as seen figs. 16 and 17 (*a a a a*), which commence again the several methods of germination just detailed. As



Figs. 10, 11, 12, 13, 14, and 15.

the minute filaments belonging to one plant get what may be termed ripe, the mass of cellules that have been developed about those first generated in the centre become to be considerably condensed and pressed together, as at fig. 17 (*b*), so as to lose the distinct boundaries they originally possessed; and they begin to assume a brownish-yellow colour, and, in fact, look now exactly like a section of the body of the ergot itself.

Here then has been witnessed, by daily examinations, the growth of these sporidia, which, being found on the ergot of every grass, are without doubt connected with the cause of its origin: these examinations shew their various methods of germination, and their advancement to maturity and ultimate ripening, or producing the means of their reproduction; yet this minute plant does not measure more than 1-300th to 1-100th part of an inch in length or breadth.

The fact of having caused these minute plants to grow, independent or not connected with the body of the ergot, and without assuming any form in the least way similar to it, is the most convincing proof that the flocci, or arachnoid filaments, and the particles, before mentioned, occurring on the surface of the ergot, are no part of that body, but are the microscopic plants just described, which choose the grains of many grasses as the matrix of their development, such plants belonging to the order of vegetables denominated Fungaceæ.

There are other proofs of the independent existence of the microscopic fungus, for it is found that it is not exclusively confined to the grain as a locality, but is observed to flourish on many other parts of the same grass, viz. in the interior and on the exterior of the anthers, on the paleæ, on the glumes, and on several parts of the rachis of the infected plant; but not occasioning there any exuberant growth of the part, for obvious reasons: because these parts have completed their development before the fungus makes its appearance; and their structure is not like that of the grain, which, at the period of the attack is exceedingly young, and just commencing to grow rapidly, and susceptible of impressions which can easily pervert its form and structure.

I conceive from the foregoing re-

marks that my examinations have proved that the ergot of the rye, as well as other grasses, is produced by a particular species of fungus, which develops itself upon or in the grain, whilst the latter is very young, causing its remarkable alteration from a healthy grain, in form, colour, chemical composition, and properties.

The method by which this singular production probably originates (for at present all respecting this part is uncertain), is, that the sporidia of this fungus are by some means introduced into the interior of the plant, and ultimately arrive at the grain, which they find the most suitable matrix for their development, or they are brought into contact with the young grain by some means (probably by the fluid) from without. In either case, when they come into contact with the grain, they lose no time in the work of reproduction, emitting their filaments through the tissue of the grain, and covering its body with multitudes of arachnoid filaments bearing sporidia, and apparently destroying its coats, as the matured ergot possesses no envelop.

Their presence communicates disease most frequently to the entire grain; sometimes, however, I have thought that the embryo only has been diseased, a part of the albumen remaining, along with the hairy tuft, on the apex of the ergot. This diseased action does not, I imagine, entirely deprive the grain of the power of growth, for it lives after the effects of the parasite have ceased; but it vitiates all its constituents, for neither starch nor gluten now exist, but instead, abundance of oil, which I suspect is produced by the grain, as none is seen from the microscopic plants whilst germinating in the way already described. As the ergot increases in size, it is made up partly of the diseased structure of the grain, and the fungic matter which has grown within it, which is like that observed when the parasitic plant grows unconnected with the grass, not being sporidia, but condensed cells such as compose the filaments, as at *b*, fig. 17.

To state my opinion, derived from experiments and examinations which have been made and repeated again and again, in order to obviate every source of error arising from the manner in which they have been conducted, I would say, then, that I consider the body known as ergot to be a mass composed of the constituents of the diseased grain, mixed with fungic matter, occupying the place of the healthy ovary, of which can be observed some retained relics in its triangular shape, and the furrow on one of its sides, both conditions being those of the perfect grain also.

Since it has been, I trust, demonstrated that the ergot is no longer to be considered an independent fungus, it has become necessary to alter its previous botanical relations, by dismissing the former appellations, and giving a new one to the minute plant, which is the cause of this singular production.

From comparisons with the characters of the present little plant, and with those of British and foreign genera of Fungaceæ, it has been found so unlike any of them, as to deserve being made a new genus, to which I have given the title of *Ergotætia** ; and, after repeated examinations in the rye and other grasses, I have not hitherto found any material difference in the organization or characters of this parasite to warrant the making of those belonging to different grasses into different species, therefore I apply the specific term *abortans*† to the fungus found on the rye, and believe those on other grasses to be the same species.

This minute plant, from its structure and habit, will be classed in the suborder of Fungaceæ, *Coniomycetes* of Fries, and in the tribe *Mucedines*‡.

Though many of these observations were primarily made with the elymus, because I had the plants in the growing state, yet the same experiments with the sporidia of the rye have been repeated, and with the same results, and the anatomy of the body of the ergot in both and in other grasses, seems to correspond in every respect.

There is a point which, as regards the goodness of the ergot of rye, is deserv-

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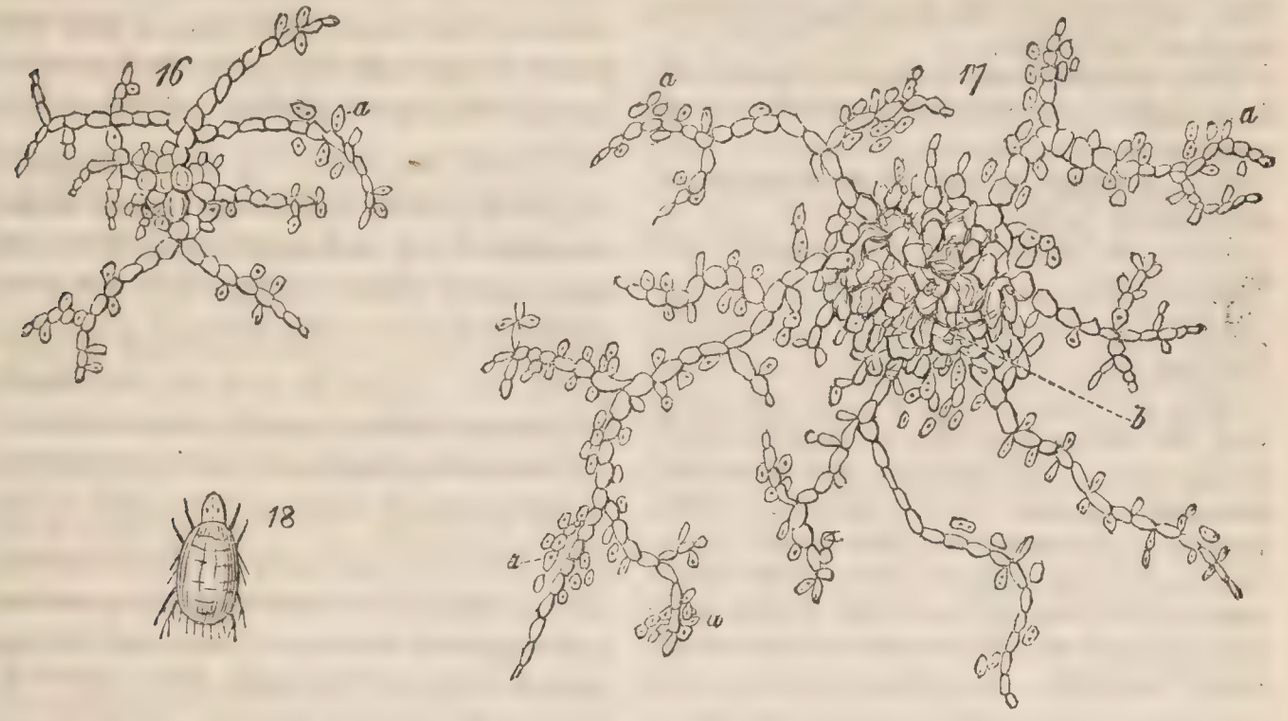
* From Εργωτη, *Ergota* ; and αιτια, *origo*.

† The term applies directly to the fungus destroying the germinating power of the grain, and indirectly to the medicinal properties of the ergot.

‡ In Berkeley's arrangement of the British Fungi *Ergotætia* will be placed in the suborder *Hyphomycetes*, and in the tribe *Sepidoniei*, which is composed of plants having filaments not sporidiferous ; the sporidia being heaped together, and lying upon the matrix, which is nearly the case with the parasite of the ergot, whose filaments do not often bear sporidia, or if so, not one hundredth time so frequent as the sporidia develop one from another, forming a mass which completely invests the body of the ergot.

ing mention in this place, from having found, in numerous instances, that the specimens have frequently been not much more than hollow cases, instead of being solid. On looking for the cause it was found that these effects were produced by numbers of small acari, (fig. 18) which devour the interior, thereby



Figs. 16, 17, and 18.

rendering such specimens nearly inert, and producing much powdery excrementitious matter about the ergot, similar to that observed with those species that dwell in cheese, or devour malted or other corn; therefore, the practice of keeping camphor, or some strongly smelling body with the ergot, is likely to be a preventive to the attacks of these tiny depredators.

EXPLANATION OF THE FIGURES.

Fig. 1 represents the young grain of rye twice its natural size, (*a*) being the ovary, crowned with hairs (*b*); (*c c*) the feathery stigmas; (*d*) the place of the embryo; (*e e*) the two scales at the base of grain; (*f f*) lines representing the position of the paleæ, which are seen in their natural condition in fig. 3; (*g*) the pedicel or receptacle to which the grain is attached.

Fig. 2 shows the ripe grain of rye, twice magnified; (*a*) embryo; (*b*) crown of hairs; (*c c*) shrivelled stigmas; (*d*) albumen, composing body of the grain; (*g*) pedicel.

Fig. 3 shows ripe grain in its natural position between the paleæ (*f f.*)

Fig. 4 is intended to give a representation of the commencement of the formation of the ergot; but an accurate idea cannot be well given, on account of the minuteness of the particles and filaments composing the fungus: (*a*) is the ovary of the grain overrun with the fungus, which completely hides it from the view; (*b*) shows the fungus has cemented the anthers and the stigmas together; (*e e*) the two scales at its base, separated from each other to show the extent of the fungus, which stops generally at the receptacle (*g*), all these parts being twice or three times larger than natural.

Fig. 5. The ergot about half grown, as it begins to show itself between the paleæ; (*a*) ergot beginning to lose most of its filaments and sporidia, and beginning to appear purplish; (*e e*) scales at its base, that have been spread open; (*g*) receptacle; (*h*) remains of hairy crown and stigmas.

Fig. 6. Matured ergot, exhibiting the furrow and several cracks, and fissures, and retaining (*e e*) the two scales, and (*g*) receptacle, not altered; (*h*) remains of stigmas and hairy crown, still adhering. This and the preceding figure are twice the natural size also.

Fig. 7. A portion of a transverse section, so thin as to be transparent, magnified 700 times, showing the irregular, cellular structure enclosing minute fatty particles.

Fig. 8 represents some of the sporidia, magnified 1000 times, and which contain different numbers of green granules; the first, however, having none. Phœbus' figure of these is precisely similar; but Philippar's very imperfect.

Fig. 9 is their germination, by emitting tubes containing granules similar to those of the sporidium producing them.

Fig. 10 is their germination, by giving

off minute buds which ultimately become sporidia, four or five adhering occasionally to each other, and lastly separating.

Fig. 11 represents the membrane of the sporidium laid open and increasing in size, developing green granules on various parts of its surface.

Fig. 12 shows the manner a sporidium is divided by a septum or septa, by the green granules extending themselves laterally; different states being observed in the present figure.

Figs. 13, 14, 15. Different stages of the same process.

Fig. 16. The fungus assuming a radiating form, and beginning to develop sporidia upon its branches.

Fig. 17. The fungus arrived at maturity, its centre showing a structure analogous to that seen in fig. 7, and its several branches loaded with sporidia. Figs. from 8 to 17 magnified 1000 times.

Fig. 18. The acarus which lives on the interior of the ergot, being about one-fourth the size of the cheese-mite; magnified 80 times.

MEDICAL GAZETTE.

Saturday, January 19, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *rtis Medicæ* tueri; potestas modo veniendi in ublicum sit, dicendi periculum non recuso."

CICERO.

SAVE US FROM OUR FRIENDS.

It is now something more than a century since the Dean of St. Patrick's drew up his "modest proposal for preventing the children of poor people in Ireland from being a burden to their parents or country, and for making them beneficial to the public." The poor, he thinks, may maintain their children for the first year with the milk of the mothers, with little other nourishment; "at most, not above the value of two shillings, which the mother may certainly get, or the value in scraps, by her lawful occupation of begging." At one year old he proposes to provide for them in such a manner that instead of being a charge upon their parents and the parish, they shall contribute to the feeding, and partly to the clothing, of many thousands. The Dean supposes the population of the kingdom to be one million and a half, of whom there are two hundred thousand couple whose wives are breeders. From this number he subtracts thirty thousand couple who are able to maintain their own children, and fifty thousand more for those women who miscarry, or whose children die by accident or disease within the year. There remain only 120,000 children born of poor parents to be provided for. How is this to be done? "We can neither employ them in handicraft nor agriculture; we can neither build houses (I mean in the country), nor cultivate land; they can very seldom pick up a livelihood by stealing till they arrive at six years old, except where they are of towardly parts, although I confess they learn the rudiments much earlier; during which time they can, however, be properly looked upon only as probationers; as I have been informed by a principal gentleman in the county of Cavan, who protested to me that he never knew above one or two instances under the age of six, even in a part of the kingdom so renowned for the quickest proficiency in that art."

Dean Swift, therefore, humbly proposes that the children should be eaten at one year old, having been assured by a very knowing American of his acquaintance, in London, that a child of that age is a most delicious, nourishing, and wholesome food. He estimates the value of such a child at ten shillings; and as the charge of nursing a beggar's child (in which list he reckons all cottagers, labourers, and four-fifths of the farmers) is about two shillings per annum, the mother will have eight shillings net profit upon each. The scheme of eating older children from twelve to fourteen years of age instead of venison, he objects to, for several reasons; among others, because some scru-

pulous people might be apt to censure such a practice as a little bordering upon cruelty.

How this modest proposal was received by the political economists of Swift's time does not appear; except that a foreign author is said to have considered it as serious, and to have quoted it as an instance of the extreme distress of Ireland, when a clergyman and a man of letters could advise the consumption of infants as a means of relieving it.

Swift's irony was launched against the Irish landlords, whose inhumanity suffered the poor to stagnate in such misery that his proposal wore an air of charity. Some living satirist has lately put forth a similar scheme under the title of "The Possibility of limiting Populousness, by Marcus," where he lays the lash upon the Malthusians with no sparing hand; they catch it, as schoolboys say. Their blank and dreary nonsense, their projects for making people happy by rendering them less worthy of being so, and their utter unconsciousness of the profligate tendency of their recommendations, are agreeably parodied in the pamphlet of Marcus. His plan for the maximization of happiness is simply to put all superfluous infants to death by a noxious gas, conjectured by a reviewer to be carbonic acid gas. See how philosophical the Roman pamphleteer is :—

"We may, at most, place the third child as a *terminus* not quite to be reached, and never to be exceeded. With this extent of liberty, it is to be hoped that cases of total privation will be rare; and will be imputed by the afflicted ones not to any tyranny in the human law, but to some inscrutable ordination from above."

The Rev. Mr. Stephens, hearing of this essay, and taking it all in earnest, imagined it must necessarily be written by a Poor-law Commissioner, and commented upon this with his usual warmth. But the sting of the epigram is yet to come. The Editor of the *Bury Post*, a paper favourable to the new Poor Law, thought it necessary to write to the Commissioners to request a disavowal of the "humble proposal;" and Mr. Chadwick, their Secretary, says in answer, that "it cannot but be painful in the extreme to the Commissioners that they should be called upon to disavow," &c. &c. Remark, reader, that this extreme pain is inflicted upon them by a staunch supporter, and confess with Shakspeare, that "the whirligig of time brings about its revenges."

To make the fun quite complete, a weekly print asks, "what, but the extreme of madness, could attribute such sentiments as the above to any of the high-minded gentlemen who constitute the board of Poor-law Commissioners* ?" High-minded, quotha! Why, if one wanted to write a couple of supplementary numbers to the Percy Histories, and give a volume of "Anecdotes of Shabbiness," the only difficulty would be in picking and choosing among the orders, regulations, and letters of the triumvirate. The boards of guardians all over the country, though abundantly anxious to lessen the rates, still shrink from going the whole length of the recommended meanness, and are consequently in a state little short of open rebellion. In the Worcester Union, the friends of aged and infirm paupers are allowed to send them tea, sugar, coffee, and snuff, to the unspeakable mortification of the high-minded gentlemen; while the suspension of the starving process on Christmas-day in so many workhouses, was an act of overt treason.

But to return to Marcus's modest proposal. We would suggest, with extreme diffidence, not having consulted our friends in the Temple, that the scheme is not yet lawful. The Poor-

* Observer, Jan. 13, 1839.

law Act does not contemplate the noxious gas method, but only the water-gruel way; and any Malthusian, whose zeal outran his discretion, might find that his efforts diminished the subjects of our liege lady the Queen, by a unit more than he had reckoned upon. In short, it is not legal at present to fit up a Malthusian foundling hospital with Joyce's patent stoves; nor will it be so, until the economists can procure an act for *lightening* populous towns with gas.

QUACKERY.

If medicine were a science, as it is often flatteringly called, a quack doctor would be as rare as a quack algebraist; and every one would think it as silly to allow himself to be tormented by a charlatan, when he might have his disease solved by a physician, as it would be to send his mathematical difficulties to be blundered over by a crazed tinker, when he might obtain the services of a senior wrangler. Unfortunately, however, medicine is rather a tentative art, than a science; and though there is a wide gulph between the reasoning practitioner "rich with the spoils of time," or, in other words, taught by the registered results of the experience of ages, and the quack whom even his own manslaughters cannot instruct, still those who look upon the healing art as a science, teach the public to expect so much, that disappointment is certain. Thus the philosopher is apt to compare the human frame to a clock, and to ask, would you entrust the repairing of a clock to a watchmaker, or to one unskilled in the trade? There are, however, two differences between the cases: first, the clockmaker begins by opening the engine entrusted to his care, while vivisection is not permitted to the physician; secondly, if a wheel is broken it can be replaced; but even if the practitioner were quite certain that the liver of his patient was worn out, or that the par vagum had given up all connexion with the stomach, he could not substitute more efficient organs. On the other hand, the quack doctor enjoys this prodigious advantage over a quack clockmaker, that while the clock has no power of self-reparation, and, if tampered with by a pretender, will continue motionless, the human frame has a tendency to remedy its own imperfections, so that the quack runs off if the praise which should bestowed on the *vis medicatrix naturæ*. Dr. Ticknor, of New York, the author of an ingenious treatise now before us*, says, "why it is that an unlettered, unprincipled charlatan, one who makes his ignorance his boast, and who prides himself upon his unblushing effrontery and impudence, should receive the countenance and support of those who claim to be first and foremost in society, is not easily accounted for. Generally, however, ignorance and assurance accompany each other, and in an equal proportion, while modesty and doubt attend extensive knowledge, especially in a science so uncertain as that of medicine."

Now it is clear to us, that if medicine, instead of being an uncertain science, as our brother of New York confesses it to be, were an exact one, in spite of the blushing modesty of its professors, their ignorant competitors would soon be driven off the field, or reduced to seek a living among the lowest vulgar.

Useful and even necessary as are the sciences which are ancillary to medicine, we fear that popular opinion leads many to expect more from their aid than experience will justify; and while the healing art is elevated to the rank of a science, it is supposed that anatomy, physiology, and chemistry, render all the problems of medicine

* An Exposition of Quackery and Imposture in Medicine; being a Popular Treatise on Medical Philosophy. By the Author of "The Philosophy of Living." With Notes by W. Wright. London, 1839.

matters of demonstration. Yet there is no doubt, that although Dr. Ticknor, like most of those who have written on quackery, rather exaggerates the benefits which the practice of physic owes to its theory, a strong case may be made out against the quacks even in this branch of the controversy. The facts of anatomy, the analogies of physiology, and the combinations of chemistry, have all furnished hints for the improvement of our art. But there is a lower ground, not so commonly taken, on which the battle might be fought with still more signal success. The practice of the quack is the empiricism of a single life, founded, perhaps, on some wretched herbal, and improved, if improved at all, by the sacrifice of countless lives. The practice of the empiric physician, like that of the εμπειρικοι of old, is founded on the registered results of the experience of his predecessors. Every thing useful which has been elicited by the experiments of more than two thousand years, survives in his practice; and as each great physician has adopted the best points in his predecessors' practice, however opposed to the theoretical explanation of them, the current methods of treatment are, in reality, an anthology collected from the best writers of all ages; so that a judicious practitioner, though perhaps he has never read a line of Hippocrates, often obeys, without knowing it, the precepts of the Father of Physic. Hence the educated practitioner is strong in the accumulated knowledge of at least seventy generations; while the impostor acts as if the healing art were an affair of yesterday; as if it were yet to be ascertained what is the effect of a blister covering the superficies of a square foot, or what result will be produced by unlimited doses of colocynth and gamboge.

We will continue this subject at an early opportunity, with a particular reference to Dr. Ticknor's picture of quackery in the United States, and the reasons he assigns for its prosperity.

FRACAS AT UNIVERSITY COLLEGE.

Monday evening last being the first on which Dr. Copland (who has been appointed temporary professor in the room of Dr. Elliotson, resigned) was to deliver his introductory lecture on the practice of physic, the medical students assembled in large numbers in the anatomical theatre of the University some time before 8 o'clock. A row was evidently expected, and there could not have been less than from 300 to 400 persons present. The result of the ballot which took place a few days before showed the students to be pretty nearly equally divided, there being only a majority of 13 in favour of the resolution soliciting the council to recal Dr. Elliotson, and last evening there appeared to be a strong determination on both sides—on that of Dr. Elliotson's disciples to hiss down the new lecturer, and on that of the opposite party to support him. Previous to the appearance of Dr. Copland, the audience amused themselves by hissing and cheering particular individuals as they entered the rooms, as their opinions were known to be favourable or adverse to either party. But the entrance of the lecturer himself was the signal for the commencement of a most deafening discord, the Elliotsonites, who mustered in their greatest strength on the back benches, and in the remotest parts of the theatre, groaning and hissing with all their might, while the other party received the Doctor with every demonstration of respect. For upwards of 20 minutes the lecturer remained standing, unable to get a hearing, amidst the uproar. At last Dr. Sharpey, the Professor of Physiology, advanced, and, although that gentleman is highly popular with the students, some time elapsed before he could succeed in making himself heard. He passed a short but high enlogium upon the professional talents of Dr. Copland, and entreated he might be heard. Still, however, the uproar continued. Dr. Copland commenced his lecture, but not a syllable could be distinguished. An attempt was made to eject summa-

rily some of the most obstreperous, but this only increased the disturbance. A rush was made to the upper entrance, many of the auditory left the theatre, and crowded the staircase, and a general *mêlée* seemed inevitable. At this juncture, Mr. Taylor, the apothecary to the hospital, having succeeded in obtaining a momentary hearing, said it would be expedient to ascertain how many of the numbers present had really a right to be there, as he felt sure the students as a body would not disgrace themselves by such violent and outrageous conduct, and in fact he was sure there were many strangers in the room, whose only object was to create a disturbance.

A student then got up and said he could corroborate that statement, for he had just been violently misused and assaulted by some persons whom he knew were not members of the University.

Something like tranquillity was then restored, and a few sentences of the concluding part of the lecture might be heard.

Dr. Copland, whose demeanour throughout was perfectly calm and dignified, was vehemently cheered at the conclusion of his discourse; by which, however, it could not be said that the most attentive amongst the auditory profited much; and the students dispersed. Fortunately the results were no worse than one or two torn coats, and peradventure a black eye here and there, caught when some of the most riotous were expelled.

Upon the whole, the entire blame of the disturbance rests with the Elliotson party, who arranged themselves in parts of the room which were out of the view of the professors present, and commenced the uproar.

Dr. Sharpey, while addressing the audience, observed, that every student had had a fair and ample opportunity of expressing his sentiments with regard to the resignation of Dr Elliotson at the meetings which had been held on the subject. "Any mean coward," spiritedly observed the learned professor, "may get in a corner and hiss and groan, and yet be ashamed to show his face openly." —*Morning-Papers.*

[We are happy to say that no disturbance occurred after the first night, and that Dr. Copland has since been listened to with the attention and respect he so eminently merits.—Ed. Gaz.]

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Jan. 8, 1839.

The President in the Chair.

A Case of Carditis. By Thomas Salter, Esq. F.L.S. of Poole.

The author begins by observing upon the extreme rarity of cases of genuine carditis, or inflammation of the muscular substance of the heart, a fact of which the older pathologists, who confounded this affection with pericarditis, do not seem to have been aware. "It does not appear," says the author, "that Corvisart or Laennec ever saw an unmixed case of carditis, nor does Andral give a single instance of the disease." The clearest case of the disease that has ever, in his opinion, been published, is that related by Mr. Stanley, in the seventh volume of the Society's Transactions; and even that presented unequivocal evidence of the co-existence of inflammation of the pericardium.

The patient whose case forms the subject of the present narrative came under the author's observation eight days before he died, at which time he complained of uneasy sensations in the region of the stomach, and under the sternum, increased by exertion. On applying the ear to the region of the heart, nothing abnormal was discovered. The patient stated that he had first observed the symptoms six weeks before, whilst walking; that the pain was then at the lower part of the chest, inclining to the left side, and that although it did not continue long, it was remarkably severe. A week afterwards he had a similar attack, following exertion. The attacks then became more frequent, and even lifting the arm sometimes gave rise to them.

When the author saw him, he was sitting up in bed, being unable to lie down, owing to the great distress in his breathing. He indicated the middle of the sternum as the seat of the pain, which was not lancinating, but of a dull heavy description. The treatment adopted, including venesection, counter-irritation, and the administration of opium and calomel, failed to procure any alleviation of the symptoms, under which he sank; retaining, however, his mind in a collected state during the entire period of his illness *.

On dissection, the vessels on the bag of the pericardium were distended with red blood. Its reflected layer, especially

* In Mr. Stanley's case, alluded to above, so entire was the absence of all symptoms referable to the *heart*, that it was only by dissection ascertained that the patient did not die of disease of the brain.—Secretary, Med.-Chir. Soc.

that covering the left ventricle, also evinced the existence of inflammation which had proceeded to the greatest extent in the part of the membrane attached to the diaphragm, which presented ecchymosed spots resembling purpura hæmorrhagica. The substance of the heart was moderately firm; that forming the left ventricle had almost entirely lost its muscular colour, and pus could be scraped from its cut surfaces. In some parts there were small cavities in the muscular substance, containing pus.

Notices of the Effects of Lead on the System. By James Alderson, M.A., M.D., Physician to the Hull General Infirmary, &c.

Among the numerous cases which have fallen under the author's care in the infirmary, of colica paralysis, in consequence of the absorption of lead, two have occurred with paralysis of the nerves of vision, which complication the author has no where seen described. These he has treated successfully, upon the principle upon which Dr. Pemberton founded his recommendation to apply splints to the arms in cases of contraction of the flexor muscles from the same cause, namely, to relieve the continued extension of the extensor muscles, and thus to enable them to recover their suspended power. Reasoning analogically, the author supposed that, by removing the stimulus of light altogether from the eye, the power of vision would be regained, in which expectation he was not disappointed. He related two cases in which the loss of sight was added to other paralytic symptoms, and which were, in his opinion, relieved by the exclusion of light from the eyes.

The treatment in each of these cases consisted, besides, in the administration of Magnes. Sulph. 3j.; Tinct. Opii, ℥ij.; Infus. Rosæ, ℥j. every four hours. Pulv. Ipecac. Co. gr. x. at bed-time, and the use of a stimulating liniment to the neck and spine, with a generous diet, and afterwards Quinine.

The author then offers some observations on the treatment of the more common effects of lead, and highly extols the remedial effects of croton oil, in the more severe cases, in overcoming the torpor of the bowels.

The paper concludes with the narration of some cases of paralysis, from the unsuspected absorption of lead, in consequence of drinking rain-water kept in leaden cisterns, and a note is appended to the paper, by Mr. Pearshall, an able chemist, by whom a careful examination was made of the water, in the course of which he makes some important observations on the caution necessary to be observed, in drawing conclusions from such investigations, shewing that the quantity of lead may and does vary materially with the nature of the substances mechanically present in the water; the whole being sometimes suddenly removed by agitation, as by a shower of rain causing turbidness in the water.

A letter was then read from Dr. Gregory, addressed to Mr. Arnott, containing an abstract of all the cases of small-pox admitted into the Small-pox Hospital during the year 1838, which was ordered to be inserted in the minutes.

M. Gannal's Antiseptic.

The Secretary presented to the inspection of the society four specimens of birds (a pigeon and three domestic fowls), in whose bodies putrefaction had been altogether prevented by a new process invented by M. Gannal, of Paris, and for which a patent has been procured in this country. The advantage of this method in the preservation of subjects for dissection, and in embalming the dead, was dwelt upon in a letter from the patentee, Mr. Smith, of Oxford Street, to Mr. Money, which was read.

Busts of Dr. Babington and Mr. Earle.

The Secretary having informed the meeting that the committee for managing the fund subscribed for placing a marble bust of the late Mr. Earle in St. Bartholomew's Hospital, had presented a cast of that work to the society, together with a scagliola pedestal for its support, and that the president had also presented a cast from the bust of the late Dr. Babington, another deceased president of the society, together with a similar pedestal:—Resolved, That the busts in question be placed in the library, and that the thanks of the society be conveyed to the donors of those acceptable memorials of its departed presidents.

WESTMINSTER MEDICAL SOCIETY.

January 12, 1839.

F. Hale Thomson, Esq. President.

Small-pox.—Efficacy of the Iodide of Arsenic in Lepra.—The Endermic use of Morphia.—Use of M. Gannal's Antiseptic Fluid.

In consequence of a protracted discussion in the council of the Society, the time of the general meeting was infringed upon to the extent of half an hour. This is an inconvenience which has occurred more than once, and which might be avoided by the council's meeting at half-past seven instead of eight o'clock.

In answer to a question from the secretary, Mr. Marson, house-surgeon of the

Small-pox Hospital, stated that variola and varioloid were now as generally prevalent, and as severe in character, as at any period within the last fifteen months.

After the long-expected return of the council, Dr. A. T. Thomson stated that he had recently used, with great success, the sesqui-iodide of arsenic in cases of lepra and impetigo; he employed the medicine in the form of pills in doses commencing with one-tenth of a grain, and ending with one-third. In about four days after the taking of the medicine, it might be detected by chemical tests in the various secretions; in the urine, in the saliva, and in the perspiration. The last case he had treated, and which might be considered as the type of all the rest, was that of a youth of a leuco-phlegmatic temperament, whose general health was at a low ebb. He was so feeble that he could not bear to be treated by the system of frequent small blood-lettings. He had subjected him almost exclusively to a treatment with the sesqui-iodide of arsenic, and in two months he was quite well, his skin being perfectly smooth and normal. He had, however, in this instance departed a little from his ordinary mode of treatment, by subjecting his patient to an experiment. Whilst his general system was under the influence of the iodide of arsenic, he had applied to the leprous spots of one leg an ointment of the biniodide of mercury, and he was gratified to observe that that leg healed some time before the other. This case was an unusually inveterate one, the disease having existed a long time, and involving every part of the surface of the body, except the face. The general health of the youth gradually improved under the remedies, and towards the finale of the treatment he was twice bled to the extent of six ounces. As a preliminary to the treatment, he cleared the primæ viæ by an emetic and a purgative: but afterwards, in this particular case, as well as in others, he had not interfered with the operation of the sesqui-iodide of arsenic. The diet he had always prescribed during the treatment was bread and milk. In one of his cases, where he had given as large a dose as two-thirds of a grain, symptoms of poisoning by arsenic presented themselves, but soon disappeared, upon discontinuing the metalline salt.

Mr. Horne thought the efficacy of the salt employed by Dr. Thomson so successfully in lepra and impetigo was due to the iodine. He had employed the tincture of that element extensively, and with uniform success, both internally and topically, in obstinate cases of those cutaneous affections. His dose of the tincture of iodine was generally twenty minims, given three times a day. He applied the tincture to the morbid surface with a camel-haired pencil. Great smarting was produced by its application, but he was always ultimately and permanently successful with it. In some of the cases which had succumbed to this medicine, he (Mr. H.) had previously tried as a local remedy the tinctura cantharidis. This was a painful application, and its effect, though well-marked for a time, was but transient.

Dr. C. J. B. Williams looked with suspicion upon all principles deduced from a few solitary examples of successful treatment. The diseases lepra and impetigo had long been among the opprobria of therapeutics, and had proved impregnable to the most powerful medicinal agents. He thought that, in the exhibition, much would depend upon the form in which the sesqui-iodide of arsenic was administered; for if carelessly prepared, the patient, instead of taking the iodide, might be taking the free iodine, and the simple metallic oxide, and the result would be very different in the two predicaments. He was led to make these remarks by his experience in the use of the iodide of iron, a medicine which he had employed upon the recommendation of Dr. A. T. Thomson, who first introduced it into practice. Physicians were in the habit of prescribing this salt in the form of pill. Thus it was decomposed before it was introduced into the system of the patient, who took merely the free iodine and the peroxide of iron. He considered the most important property which iodine possessed was that of influencing the system, so as to dispose it to be acted upon by the metals with which it might be combined. He was certain that such was its effect as regards iron and mercury, and might very probably be the case with arsenic. In cases of chlorosis and anæmia, in the male or female, where there existed a deficiency of the red particles of the blood, the iodide of iron had been, in his practice, of signal use; and this effect he felt disposed to ascribe to the antecedent influence of the iodine, which prepared the system for the iron. He supposed the effect might be similar in the sesqui-iodide of arsenic, where the efficacy of the arsenic might be enhanced by the iodine. At all events, the case communicated by Dr. Thomson was highly important, as introducing the profession to a new therapeutical weapon, in a field of practice where our means of cure were particularly scanty.

Dr. A. T. Thomson, in reply to Dr. Williams, and to various questions from Messrs. Snow, Hale Thomson, Streeter, and others, stated that if his favourable opinion of the virtue of the sesqui-iodide had been based upon one or two only, he

should not have thought the subject worthy the attention of the society; but the fact was, he had treated more than twenty cases successfully with this medicine. He agreed with Dr. Williams as to the predisposing influence of iodine, and he thought that its action on the capillary system had an effect in subduing the cutaneous system to the action of the arsenic. Of course, after the introduction of the medicine into the habit of the patient, a decomposition took place; but it was impossible to say what the results of that decomposition were. In his cases he had invariably tested the secretions after the exhibition of the sesqui-iodide of arsenic, and he had detected the iodine in the urine as early as the fifth day after its introduction into the system, but at no period had he been able to detect the presence of arsenic—a circumstance which he thought was due to the extremely minute portions of that metal contained in the medicine. The test which he thought the best, and generally used, for iodine, was the nitrate of palladium. He had treated cases successfully with the biniodide of mercury alone, but the time consumed in the proceeding was longer than that consumed in the treatment by the sesqui-iodide of arsenic. He generally gave the former medicine until a slight soreness, not amounting to sponginess, of the gums was produced. He had often treated cases of lepra according to the old plan, with the oxymuriate of mercury and the decoctum dulcamaræ, but the good effects produced were never permanent. He had used the sesqui-iodide of arsenic in other cutaneous diseases besides lepra and impetigo, and with success: its efficacy had been proved especially in a case of tuberculous disease of the skin in a youth of 18, who was cured in the course of two months. The iodide of iron was best exhibited in solution, where an excess of free iron should be maintained; but the iodide of arsenic would be best exhibited in pills, there being no fear of decomposition in its solid form, especially if it had been sublimated.

After a few observations from certain members, a pause ensued, and Dr. A. T. Thomson again rose and inquired if any gentleman had witnessed the occurrence of a vesicular eruption as a consequence of the endermic use of morphia. He had seen one or two cases in which the chlorate of morphia applied to a blistered surface had in the course of a few days produced a papular eruption, terminating in a vesicular one, unlike eczema. It commenced round the margin of the abraded surface, and gradually extended over the entire skin.

Mr. Horne had applied the salts of morphia endermically to a great extent, but he had never seen any such eruption ensue. He had caused to be rubbed in, into the cutis vera, as much as a scruple of the acetate of morphia, without producing narcotism or any other unpleasant effect.

Here numerous questions were directed to Dr. Thomson, who made the following reply:—

He had found the endermic use of morphia beneficial in various forms of neuralgia, and in several thoracic affections, as asthma, phthisis, &c. He had caused to be attrited into the vesicated surface as much as two grains of the chlorate of morphia. He had occasionally seen symptoms of narcotism arise from its application in this mode; but such symptoms, as well as the vesicular eruption he had alluded to, had always disappeared upon the cessation of the use of the medicine, and the administration of laxatives. The cessation of the medicine was generally attended with a renewal of the symptoms which it had abated, especially in chest affections, but in a few days the remedy might safely be renewed.

Mr. Gregory Smith, the discussion on the previous subject having ceased, said, in reply to a question from Mr. Streeter, that he was induced to afford M. Gannal an opportunity of trying the efficacy of his antiseptic fluid in this country, from having received from Paris strongly recommendatory letters in his favour, and from knowing that he was a scientific man, eminent in his own country. M. Gannal arrived in this country in October last, and he (Mr. Smith) had, with great difficulty, in consequence of the scarcity of subjects, procured him a body, such as was considered eligible for the purpose. It was the corpse of a middle-aged man who had died of an acute disease. The man had been dead four days when the body was put into the possession of M. Gannal. This gentleman opened the jugular vein of the corpse, and injected a quart of the fluid. The body was not subjected to any preparatory process, such as emptying the bladder, and removing the bowels, lungs, or brain. In half an hour after the injection of the fluid, the body was stiffened in a singular manner, assuming the consistence of wax. The body was now sheathed in bandages previously soaked in essential oils of one or two different kinds. It was then placed in a coffin furnished with a couple of glass windows, through which the state of the surface could be seen. It had lain untouched for more than two months, and no perceptible change had taken place as regards form or colour. This liquid M. Gannal called his embalming liquid; but he had invented another antiseptic liquid, for the purpose

of preserving subjects for dissection and morbid specimens. He (Mr. Smith) had been unable to procure M. Gannal a body on which to try this second fluid; but he gave him the body of a jackass, killed with prussic acid. A few hours after the death of the animal M. Gannal injected the fluid, but owing to some cause not explained, one half of the animal only had been penetrated by the fluid. The uninjected half became rapidly putrid, and it was necessary to cut it away. The remainder, however, continued sweet to this day for a period of more than two months. M. Gannal had, at the same time, injected with the second antiseptic liquid several quickly putrescent and other birds, such as grouse, partridges, pheasants, water fowl, &c., and after the lapse of ten weeks these remained as fresh, to all appearance, as if killed yesterday.

In reply to questions from various quarters, Mr. Smith stated that he was unacquainted with the nature of the fluid employed. He had studiously avoided inquiring into its nature, thinking himself in honour bound not to pry into M. Gannal's secret. It would have been easy for him to ascertain the nature of the fluid, for he could have collected from the cavities of the heart sufficient for the purpose of analysis; but as M. Gannal did not choose, for reasons no doubt sufficiciently cogent, to impart to him a knowledge of the nature of the liquid, he (Mr. S.) did not choose surreptitiously to obtain it. M. Gannal was much respected in Paris; he had obtained a prize from the Institute of France for applying the acetate of alumina to prevent putrefaction. He did not think the fluid was acetate of alumina, nor tannic acid, nor arsenious acid, nor Kyan's patent; it did not act upon the scalpels. It was a brownish pellucid fluid. He thought M. Gannal's researches were interesting, in a scientific point of view, and therefore he assisted him. That gentleman's object was to obtain a patent in this country for his embalming liquid; and in his (Mr. S.'s) opinion M. Gannal had succeeded in producing all the effects which he had promissed. The body, the ass's flesh, and the birds, were at his museum in Little Windmill Street, and he should be happy to shew them to any member of the Society who might favour him with a visit.

Dr. Chowne had examined the specimens of the favour of M. Gannal's fluids, described by Mr. Gregory Smith, and he would bring his own testimony in support of what Mr. Smith had stated regarding the unaltered condition of the preserved substance. The birds were apparently as fresh as if recently killed. He (Dr. C.) thought the second antiseptic fluid susceptible of highly important applications, especially in the better and more economic preservation of morbid specimens. If it were found to preserve the colour of parts, it value would, of course, be enhanced.

Mr. Streeter had, since the occurrence of the exhumed body at Bristol, in which the stomach had been preserved by the presence of orpiment, put up several preparations in a solution of arsenic, but he had been bitterly disappointed in the results: he had no confidence in any thing but alcohol as conservative of animal matter.

Mr. Smith had made several preparations with the arsenious acid: some of them were three years old, and they were as perfect as at first. The only inconvenience he experienced was the decomposition of the glass through the agency of the arsenic, by which a deposit of the arseniate of lead subsided to the surface of the preparation. He had for years used, in his dissecting-room a very unchemical mixture for the preservation of his subjects. It consisted of a mixture of arsenious acid, nitrate of potass, and alum, in strong solution. No doubt decomposition took place, but the resulting compounds answered the purpose of preserving bodies admirably. Joshua Brookes injected all his bodies with a saturated solution of the nitrate of potass; but this solution produced the inconvenience of crystallizing in the smaller arteries, and thus impeding the subsequent flow of the wax injection. Dr. Macartney's fluid, used by him in injecting bodies, was a concentrated solution of the same salt.

Dr. A. Thomson had analyzed the sawdust with which the abdomen of a mummy, opened in the University College Hospital, had been filled, and found it contained an unusually large quantity of tannic acid. He thought this acid was well adapted for the preservation of flesh, and it would now become cheap, since a new and economic process had been discovered in France, by which it might be obtained in large quantities.

Mr. Snow thought a great objection against the use of arsenic in preserving subjects for dissection, was the fact that, when putrefaction might commence, the arsenious oxide would be vaporized, and thus be inhaled, to the great injury of the dissector.

Mr. Smith had used the solution for some years, and never knew any inconvenience to arise from its use.

A gentleman observed that he had examined the flesh of the ass and of the birds preserved by M. Gannal's antiseptic, and he found that the flesh had preserved its natural colour: thus the pigeon, the

pheasant, the domestic fowl, each maintained its proper colour.

Mr. Smith could not say that he was perfectly satisfied with the state of the preserved part: its power of resistance to the scalpel was not normal. He could not say that he accurately examined the condition of each tissue, but any gentleman who chose to call upon him might judge upon those points for himself.

IDIOS.

THE LATE MR. KING.

(From a correspondent.)

WE have this week the melancholy duty of recording the decease of a most worthy and talented member of our profession—Mr. Thomas King—who has been long advantageously known in London as a teacher of anatomy and surgery. Mr. King was a native of Norwich, and at an early age evinced so great a predilection for the profession of surgery, that he was sent forthwith to study at the School of Medicine at Paris, where he competed successfully with his fellow-students, and at the first *concours* became member of the Ecole Pratique. He subsequently filled the offices of externe and interne at several of the Parisian hospitals, and while at the Hôtel Dieu was considered to be Dupuytren's favourite pupil. The baron treated him with more courtesy and favour than any other interne, requiring his assistance at every important operation, placing private patients under his care, and evincing a particular friendship for him by frequent recommendation. At this period Mr. King suffered from derangement of the digestive organs, and occasional rheumatism, caused by his zealous and unremitting labours in the dissecting-rooms, and particularly in the *salle des morts* of the Hôtel-Dieu, where he gained fresh laurels by perfecting the records of the hospital cases, but, judging from the event, probably laid the foundation of disorder which caused his premature end; and accordingly, like Grainger and Bennett, he has fallen a victim to his zealous pursuit of anatomical knowledge. The *salle des morts* of the Hôtel-Dieu is a dismal stone vault, in which the anatomical inspection of the dead is performed with an accuracy unpractised in the English hospitals; and here King was daily seen shortly after six o'clock, even in the winter months, his feet protected from the pavement by labots or clogs, his fingers punctured and wounded in dissections, enveloped in pieces of linen, and himself exposed for hours to a tainted atmosphere, biting cold, and misery scarcely conceivable by those who have not witnessed it. Few of those who have had charge of the *salle des morts* pass this life without feeling the direful effects of the duties that have been required of them. At the time Mr. Bennett established a school of anatomy and surgery in Paris, Mr. King assisted him, and subsequently lectured on the same subjects at the Pitié. The lectures were well attended by foreigners, particularly Germans, as well as by many of his countrymen. About the year 1828, Mr. King came to London; and presented himself at the College of Surgeons for examination; which was granted after some hesitation, and he became a member of that body. Mr. King was convinced that his well-earned laurels and devotion to his profession would ensure him success—that merit like his must be acknowledged—and that patronage was of secondary importance, but he soon discovered his error; for on offering himself on several occasions for public situations, it was made painfully evident to him that merit alone would not avail. His advance in the profession was not so rapid as he had anticipated, and the English system of appointing medical officers so different from the French, led him to express himself very warmly on the necessity of medical reform, and the adoption of the concours in the election of all public medical officers. In 1831 Mr. King was appointed surgeon to the French embassy, a high mark of distinction, when we consider that Prince Talleyrand was the representative of France at this period; and we have reason to believe that Mr. King was a favourite with the Prince, who took great pleasure in discussing medical opinions. The immediate cause of Mr. King's death appears to have been slow inflammation of the membranes of the brain and spinal marrow, causing sleeplessness, great irritability, and general wasting. From his doubting the nature of his own complaint, the treatment pursued was very inert, and not worth mentioning. Mr. King has many claims on the profession as a contributor to medical science. His dissertation on the ligature of the innominata and subclavian arteries, which was the subject chosen for his thesis on taking his degree in Paris, in 1828, shows correct anatomical and surgical views. The same subject formed the substance of a paper read before the Westminster Medical Society, and was reported in the medical weekly journals of the time, viz. February 1831. His work, "Lithotomy and Lithotrity Compared," published in 1832, is distinguished by a remarkably accurate description of the parts concerned in these operations,

and was most favourably reviewed by the different periodicals. His plan and instrument for removing uterine polypi are simple and efficacious, the full description of which appeared in the medical periodicals of Jan. 26th, 1833. Acupuncture, as used successfully by him in cases of hydrocele and ascites, and his modification of the operation for cataract, have been already tested by experience, and are decidedly improvements in the old methods of treating these diseases; an account of these operations will be found in the MEDICAL GAZETTE of the past year.

The first part of the article "Amputation," in Mr. Costello's Cyclopædia of Practical Surgery, is marked by industry and talent of superior order. His lecture, delivered at the re-opening of the Blenheim Street School, and published in 1834, displays a far more intimate acquaintance with general, comparative anatomy, and chemistry, than is considered essential to the mere anatomical teacher. Mr. King's lectures were marked by accurate and close reasoning, and a strictly logical order; his manner of delivery was energetic and impressive; and he possessed the power of fixing the attention of his class in an eminent degree. His friendly and open conduct endeared him to all his pupils and colleagues.

Mr. King was a strenuous advocate of the *concours*, as was remarkably evinced by his answer to Mr. Warburton, on his examination before the Parliamentary Committee. When asked if a medical *concours* did not act as a powerful stimulus to students? His reply was, "It acts as a tremendous stimulus;" and this was the experience of one who had watched the operation of opposite systems. The medical profession have lost in Mr. King a highly distinguished and most honourable member, and the writer of this a sincere and valued friend.

Mr. King died at Norwich last Thursday (Jan. 10), aged 37, at a time when he was beginning to enjoy the fruits of his industry and perseverance. He leaves a disconsolate widow and infant daughter. Mr. King had been lately elected one of the Vice-Presidents of the Westminster Medical Society.

LITERARY INTELLIGENCE.

Mr. James F. Stephens, author of the Illustrations of British Insects, is preparing for publication a series of Manuals, descriptive of all the species of British Insects. The first volume, containing the whole of the British Beetles, is nearly ready.

CORONERSHIP FOR MIDDLESEX.

A VACANCY has just occurred in the office of Coroner for Middlesex, by the death of Mr. Stirling. We earnestly recommend our brethren to use every effort to procure the election of a medical man, should any respectable member of the profession offer himself. This is one of the points (not very numerous, unfortunately) on which we concur in the opinion of our rival contemporary.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, January 3.

James Sheppard, Stonehouse, Devon.—Peter Cooper, Leicester.—Edward Henry Hills, Maidstone.—P. O. E. Baines, Shrewsbury.

Thursday, January 10.

John Robinson, Pontefract.—William Kelcey, Hawkinge, Kent.—Charles Septimus Dickin, Manchester.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *Jan.* 15, 1839.

Age and Debility	43	Hooping Cough	8
Apoplexy	4	Inflammation	16
Asthma	9	Bowels & Stomach	1
Cancer	1	Brain	8
Childbirth	2	Lungs and Pleura	10
Consumption	35	Influenza	1
Convulsions	23	Insanity	3
Croup	2	Liver, diseased	1
Dentition	2	Measles	8
Dropsy	8	Paralysis	2
Dropsy in the Brain	3	Small-pox	7
Dropsy in the Chest	1	Spasms	1
Fever	14	Thrush	1
Fever, Scarlet	9	Unknown Causes	57
Fever, Typhus	2		
Heart, diseased	1	Casualties	7

Increase of Burials, as compared with the preceding week 30

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

Jan. 1839.	THERMOMETER.	BAROMETER.
Thursday . 3	from 38 to 48	29·89 to 29·62
Friday . . 4	39 45	29·64 29·64
Saturday . 5	30 40	29·64 29·51
Sunday . . 6	29 48	29·60 29·20
Monday . . 7	43 45	29·00 29·20
Tuesday . . 8	30 38	29·38 29·49
Wednesday 9	30 34	29·55 29·88

Winds, S.W. and S.E.

Except the 5th and 9th, generally cloudy; rain fell on the 4th, snow and rain on the 6th and two following days.

Rain fallen, ·43 of an inch.

CHARLES HENRY ADAMS.

WILSON & SON, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, JANUARY 26, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

On the Chemical Constituents of the Urine, and the modes of demonstrating them.

Erythric and purpuric acids.—Enough has been already said upon these principles. They, in fact, result from the action of nitric acid and ammonia upon the lithic. You have already seen these reagencies and their products demonstrated, and therefore it is not necessary at this time to dwell farther upon the subject.

Oxalic acid.—I am not aware that the existence of this acid uncombined, or even in soluble combination, has been demonstrated in the urine. That it is generated during some of the morbid operations of the urinary economy there is not the possibility of a doubt. It is easily detected in some of the urinary concretions combined with lime, as for instance an insoluble oxalate of lime, in that species of calculus well known as the mulberry variety. It is necessary, therefore, that we should become acquainted with the physical and chemical characters of this acid.

Oxalic acid very closely resembles Epsom salts—sulphate of magnesia—for which it has been occasionally and fatally substituted. However, I think it in appearance much more like sulphate of zinc. Here you see specimens of oxalic acid, sulphate of zinc, and Epsom salts. The bottles are precisely alike, and yet I think they may be very readily distinguished by their appearance. I can tell them, however variously the relative positions of the bottles be altered; the sulphate of magnesia is readily recognised by its very fine needle-shaped crystals. Mr. Phillips describes the primary crystal as a *right prism* with *rhombic base*, the acute angles, 89° 30′, the obtuse, 90° 30′. Although the crystals may be of large size, they are usually very small, as you observe.

Sulphate of zinc also crystallises in very small crystals, the primary form of which is a right rhombic prism. They may, however, be obtained of very large size, as you observe in this specimen.

Oxalic acid appears in small flattened *six-sided prisms*, transparent, and when pure, colourless. However, as met with, they frequently have an orange tinge, owing to adhering nitrous acid, derived from the nitric acid, by the agency of which the sugar had been converted into oxalic acid. But perhaps a microscopic view of the crystals in juxta-position will be more instructive than any description. On this glass there is a crystal of each substance. The sulphate of magnesia is in the centre, the oxalic acid on the right, and consequently will appear to you, as you look through the microscope, on your left, and the sulphate of zinc on your opposite side. You see the crystal of Epsom salt is by far the longest and finest looking of the three. Oxalic acid has a smell of nitrous gas or nitrous acid; but this arises solely from impurity. The taste, however, will readily distinguish all three from each other. Oxalic acid is decidedly sour; Epsom salts bitter; sulphate of zinc styptic and metallic.

The acid is said to be soluble in double its weight of temperate water; but Dr. Christison asserts that it requires eleven times its weight of water, and this is certainly much nearer the truth.

The reagents which indicate the presence of oxalic acid in solution are chloride of calcium, sulphate of copper, and nitrate of silver. The first, as you see, throws down a white precipitate of oxalate of lime; sulphate of copper, a bluish white, as you see here—the oxalate of copper; and nitrate of silver, a dense white precipitate of oxalate of silver. These tests are acted on by uncombined oxalic acid; or, in other words, single decomposition is sufficient; but where great delicacy is required, it is better to neutralize the acid by potass.

The distinguishing characters of the first precipitate—oxalate of lime—are, that it is readily soluble in a minim or two of nitric acid. This solubility distinguishes this salt of lime from the sulphate which you see precipitated by the chloride of calcium added to the sulphate of soda in this tube. You cannot distinguish the precipitates by their mere sensible characters. But if I add a few drops of nitric acid to each, I find the one precipitate is redissolved, and the solution becomes perfectly transparent; while the same addition produces no sensible effect on the other, as you just now witness. Solubility, therefore, in a few drops of nitric acid, distinguishes the oxalate of lime from the sulphate of the same base.

The oxalate of lime which we have here is insoluble in a few drops of hydrochloric acid; for you see, on my adding two or three drops, the turbidness of the solution still continues. Chloride of calcium would throw down a white precipitate from any of the soluble phosphates, tartrates, citrates, or carbonates; consequently it is necessary to distinguish between these. This we do by the hydrochloric acid. Here are four test tubes; into one I introduce a solution of phosphate of soda; into another citrate; into a third tartrate; and into the fourth carbonate of soda. Into this tube I introduce oxalate of soda; I now add chloride of calcium to each; and you observe all five give a white precipitate, which gradually falls down from the turbid fluid. With this graduated tube I take three minims of hydrochloric acid, and thus introduce the same quantity of acid into each of the five tubes. On agitation, four become perfectly transparent, as you see; but the fifth, which contains oxalate of lime, is unaffected, and will bear three times the quantity of acid, and, as you see, retain its opacity; nor is it dissolved till a large proportion of acid has been added

But the oxalate of lime thus formed may be, I think, still better distinguished by acetic acid. I place in this test glass phosphate, citrate, and tartrate of lime. I pour upon them some water. Into this I put some oxalate of lime, and add distilled water. Into each I shall now introduce strong acetic acid; and you see the phosphate, citrate, and tartrate, are wholly dissolved, and the solution is quite limpid; whereas, the oxalate remains unaffected, and the mixture is quite turbid, as at first. Indeed, oxalate of lime, as you may witness in this glass capsule, is insoluble in concentrated acetic acid; and hence this acid appears to me to afford a preferable means of confirming the evidence as to oxalate of lime, than the hydrochloric, which, added in sufficient quantity, dissolves the oxalate. I have been thus diffuse upon the subject of oxalate of lime, because its properties will be found of great importance hereafter.

The oxalate of copper is not re-dissolved by a few drops of hydrochloric acid, as you see; but if the proportion be large, it re-dissolves, as you may now witness. This test has the advantage of not disturbing the chlorides, nor the citrates, nitrates, sulphates, or tartrates, as you may see by the following applications. The theory of this apparent inertia, if I may so term it, is sufficiently obvious, because, when interchanges occur, the results are soluble. However, it precipitates with soluble carbonates and phosphates. But these precipitates are distinguished by their ready solubility in a few drops of hydrochloric acid.

The oxalate of silver, as you have seen, is a dense white precipitate. If this be collected and dried, it becomes brown on the edges when heated, and at last fulminates, as you may now see. The fulmination distinguishes the oxalate from all the other white salts thrown down by nitrate of silver. The citrate and tartrate of silver, when similarly treated—the first, as you may observe here, becomes brown throughout, froths up, and then deflagrates with white fumes, and leaves an abundant ashy residue, which ultimately becomes pure silver,—which you see. The tartrate behaves similarly to the citrate, but, as you see, does not deflagrate. Having witnessed these several tests, with their actions, you will be able to distinguish the oxalic acid.

There is one more test, however, to which I must direct your attention; that is, the addition of strong ammonia to a solution, tolerably concentrated, of oxalic acid. The resulting ammoniacal oxalate is much less soluble than the oxalic acid itself. In this glass capsule I have a few drops of solution of oxalic acid. I add a drop or two of caustic ammonia, and you will see how beautifully crystalline radii shoot from the circumference towards the centre.

I have so arranged the experiment as that it shall take place within the field of this microscope; and if you will look through the glass, you will see the whole phenomena beautifully delineated.

Another test may be derived from the composition of the acid. The nitric and the oxalic can neither of them exist in an insulated or uncombined state. The most simple form in which either can exist is in combination with water. Thus nitric acid cannot be generated unless water or a salifiable base be present. If we electrify oxygen and nitrogen in the proper proportions, we obtain nitrous acid instead of nitric, unless either water or an alkaline solution be present. Oxalic acid is alike incapable of existing without water. Its composition when in crystals is one equivalent of carbonic acid, one equivalent of carbonic oxide, and four equivalents of water. The volumes and equivalents of carbonic oxide and carbonic acid are equal. Now the weight of an equivalent of carbonic oxide is

$$C^1 + 0^1 = 6 + 8 = 14.$$

The equivalent of carbonic acid is

$$C^1 + 0^2 = 6 + 16 = 22,$$

and four of water

$$= 0^4 + H^4 = 32 + 4 = 36.$$

Consequently, if we add all these together, the sum will give us the atomic constitution of oxalic acid. First, then, we have—

$$\left.\begin{array}{l} \dot{C} = 14 \\ \ddot{C} = 22 \\ \dot{H}^4 = 36 \end{array}\right\} = 72.$$

Therefore, if the acid be deprived of the four equivalents of water, we ought to have equal volumes, or an atom of each —carbonic oxide and carbonic acid. This constitution has been almost proved by an experiment of Dobereiner.

The acid may be easily resolved into its constituents. Thus any thing that is capable of abstracting the water will decompose the acid, and set the other constituents, the carbonic oxide and the carbonic acid free. In this retort I have put some oxalic acid. Upon it I pour highly concentrated sulphuric acid, and apply a very gentle heat; and you see now a gas comes over, which we shall receive in this jar. This gas we shall find to be a mixture of carbonic acid and carbonic oxide. Thus, on washing with lime water, there is a diminution of volume, and the transparency of the lime water is, as you see, affected, and it has become turbid. Thus the carbonic acid is removed, and the carbonic oxide alone now occupies the jar.

This, as you shall now see, burns with a blue flame; and if we were to examine the product of this combustion, we should find it to consist of carbonic acid gas, generated by the combination of another equivalent of oxygen with the carbonic oxide.

The sulphuric acid merely acts by abstracting the water, for which it has a great affinity, and the constitution of the oxalic acid being thus destroyed the two other constituents come over as you have just now witnessed.

A question now arises, can oxalic acid exist in solution in the urine; and if so, how are we to recognize or determine its presence? Dr. Prout merely mentions some few sensible characteristics in the urine, which render the prevalence of this principle probable; but "that the absence of all urinary sediments are of a *negative character*, and lead to no inference where other circumstances are wanting, as is most generally the case*." When oxalic acid is generated in the urine, it of course will immediately react upon the lime and precipitate it; and we shall find that oxalate of lime, either as an amorphous sediment or as crystallized gravel, is extremely rare. And yet, to determine the presence of oxalic acid is a matter of very great moment. If oxalic acid, therefore, exist in solution in the urine, it must exist either in the free state or as a soluble oxalate—in combination, for instance, with either potass or ammonia; nor should we find any lime in such urine. I have not been able to obtain any urine passed by a patient affected with oxalate of lime; therefore I must endeavour to shew you the discovery of oxalic acid by an artificial impregnation. Here is some urine; it measures half a pint ten ounces. We shall divide it into two portions, of four ounces each. I add to one of them some oxalic acid; and you observe oxalate of lime precipitates. Now this is precisely what would happen in the bladder, and consequently the lime would be deposited. We must therefore continue to add more acid, till we have it free. Now it throws down no farther precipitate, and if we now filter we shall have a case of oxalic acid. It does not signify whether the acid be free or neutralized, because we could not tell from what the acidulous reaction would result. We may therefore neutalize by ammonia, or rather add the ammonia in just sensible excess. For this purpose we immerse this slip of turmeric paper, and add ammonia till the turmeric becomes red. We may next decolorize by animal charcoal, and now filter. Chloride of calcium will now throw down oxalate of lime, as you see from this portion. If

* On Calculi, &c. p. 160.

we neutralize the free ammonia by a little acetic acid, you see the sulphate of copper and nitrate of silver throw down the characteristic precipitates. From this portion we separate the oxalic acid by acetate of lead, and hydrosulphuric acid liberates the oxalic acid, as you observe.

Now we shall try another portion in precisely the same way; and you see there is not the slightest indication of oxalic acid. Thus evidently we can readily determine the presence of oxalic acid, if it exist in solution in the urine. We shall find it useful to recollect these when we come to consider the mulberry variety of calculus.

Benzoic acid is a subject of no importance, and therefore we shall pass it over.

Carbonic acid occasionally exists in the urine, and, sometimes combining with the lime, forms calculi of carbonate of lime. To determine the existence of free carbonic acid, the plan adopted by Dr. Marcet may be resorted to, of placing the urine under the receiver of the air-pump, and exhausting it: the carbonic relieved from pressure rises, and is conducted into lime-water. It might also be determined, by distilling at a very moderate elevation of temperature into lime-water: carbonate of lime would precipitate. However, carbonic acid combined with ammonia is frequently found in the urine. The source of this salt is the decomposition of *urea*. Here is a specimen, in which there is a good deal of carbonic acid. Thus, if I add a little hydrochloric acid, you see it effervesces. I put some into this retort, and place the beak in lime. I now introduce some hydrochloric acid through the tubulure, and apply a gentle heat; you see effervescence takes place, and the lime-water becomes turbid. We now collect the carbonate of lime, and roll it into a mass, and place it on the surface of mercury in this jar. We invert the jar in the mercurial cistern, and now you see the carbonate of lime has risen to the upper surface. We now introduce a little acetic acid, which rises to the surface; and now that it mixes with the carbonate, brisk effervescence, as you see, takes place; the mercury sinks, and an elastic gas occupies the greater part of the jar. This will be found to be carbonic acid. It, as you see, extinguishes the candle; it will not support respiration; and it may be turned, like water, from one jar into another. Thus I place a lighted taper in this jar, by inverting this other jar containing the evolved gas over it; you observe the candle is extinguished, as if I had poured in so much water.

Cystic oxide is a very rare urinary production. Dr. Wollaston was the first to describe it. He obtained the specimen from Dr. Reeve, of Norwich, in 1810; and shortly after he recognized another in the collection at Guy's Hospital. Since then, Dr. Henry found two specimens in his collection; and, subsequently, Drs. Marcet, Prout, and myself, have met with this substance. In this sealed tube I shew a specimen of that rare variety of calculus, the cystic oxide. You must be content with a mere description, without a demonstration of its properties, because I cannot spare any portion of this specimen for chemical demonstration. However in due time I think I shall be able to exhibit to you a specimen of the urine in which this diathesis prevails, and then demonstrate the properties of cystic oxide. It was denominated "oxide" by Dr. Wollaston, from its ready solubility in acids and alkalies. It is insoluble, however, in citric, tartaric, and acetic acids; also in alcohol and water, and in carbonate of ammonia. All these agents dissolve it, but very sparingly, and therefore may be made use of for its precipitation.

On the contrary, it is dissolved by the phosphoric, nitric, hydrochloric, and sulphuric acids; by potass and soda, and by the carbonates of these bases. The citric or acetic acid is its best precipitant from these solutions. For a more lengthened detail of its properties, I will at present refer you to my paper "On the Cystic Oxide," in the Journal of the Royal Institution for January, 1830.

On destructive distillation, it yielded fœtid carbonate of ammonia, a dense, heavy, fœtid oil; and a spongy, black, coaly residue remained in the retort.

The composition of cystic oxide seems to be as follows:—

			Atomically.
Nitrogen . .	11·85		N^1
Carbon . . .	29·88	100 =	C^3
Hydrogen . .	5·12		H^6
Oxygen . .	53·15		O^4

Xanthic oxide. — Dr. Marcet has described a urinary deposit, under this name, of singular and peculiar properties. It, like the last, is soluble in acids and alkalies, whence he gave it the name of oxide. As it has not fallen to the lot of any other observer to meet with this disease, it will not be necessary to enter at any great length upon its properties. Its most distinctive characteristic is, that its solution in nitric acid on being evaporated to dryness, leaves a residue of a *bright lemon yellow* colour. This residue is partly soluble in water, to which it communicates its colour. On adding an acid, the yellow colour disappears; but on adding caustic potash, on the contrary, turns it to a red more or less intense, according to the degree of dilution. Upon evaporation it assumes a "*brilliant crimson hue,*" which

disappears on the addition of water, the yellow colour returning, and remaining perfectly transparent. The previous agency of the nitric acid was essential to the production of these changes; for Dr. Marcet states that if the potass was added to pure calculus, such as deposited by water, no change of colour took place. The residue of the solution of the calculus in water, treated with nitric acid, produced precisely the same colour as the calculusitself.

It was insoluble in alcohol and ether.

It was very sparingly soluble in acetic acid; but insoluble, or nearly so, in the oxalic.

It was insoluble, or nearly so, in bicarbonate of potass, and saturated carbonate of ammonia.

The mineral acids dissolved it but slowly, and not near so readily as the caustic alkalies; and therefore Marcet thinks the solvent power of these acids may be derived from the water which they contain. Caustic potass dissolved it readily, and it was precipitated from this solution by acetic acid only, in neutral proportion, or at all events in no great excess.

When we compare the characters of lithic acid and of the cystic and xanthic oxides together, although there is a sufficiency to distinguish them, yet there seems sufficient analogies to justify the inference that they are but modifications of the same primitive. For instance, they are all soluble with effervescence, in nitric acid, and the residue, after evaporation, as in the case of the lithic acid, is red or pink-coloured:—the cystic oxide, similarly treated, leaves a white, and the xanthic oxide a yellow residue. They are all soluble in caustic alkalies; insolubility in all acids but the nitric characterizes the lithic acid: cystic oxide is precipitated by acetic acid; while this menstruum dissolves the xanthic. A xanthic calculus has not been recognized either before or since Marcet's time;* but yet I have in one or two instances met with something like xanthic-oxide. You see in this watch-glass a small residue, and you observe it has a yellow colour. It is the residue of what I supposed to be lithic acid, treated as already described by nitric acid. It approaches so closely to what Dr. Marcet describes, that I have preserved it as you see. The little fragment which furnished this residue was more of a cinnamon colour, as Marcet has described xanthic oxide, but I had only this small particle given to me by a medical gentleman, with some fragments of crystallized lithic acid passed by a patient under his care. Upon a review, therefore, of all these facts, I cannot help thinking, that the lithic and oxalic acids, as well as the cystic and xanthic oxides, are but so many modifications of the same primitive radical.

Chyle.—I select this condition for consideration now, because I have been lucky enough to meet with a patient who passes chylous urine, and therefore I can present you a specimen, and exhibit its properties. Chyle is formed from the aliments by the action of the digestive organs. The aliment received into the stomach is there formed into a sort of pultaceous mass, partly fluid, partly globular. When chymification has been completed in the stomach, the mass is then passed into the duodenum through the pylorus. Here it is subjected to the action of the bile and pancreatic juice, and is ultimately converted, at least in most of the mammalia, into a turbid whitish milky-looking fluid, to be taken up by the lacteals so numerously distributed over the mucous lining of the intestines.

Chyle is generally opaque, and always much more so than the lymph in the same animal. This opacity of the chyle is said to depend principally upon the great number of globules in which it abounds. I have been lucky enough to have been furnished with a small quantity of chyle. It is placed in this capsule and in the field of the microscope; and if you examine it, perhaps you may be able to perceive the globular appearance. The globules are extremely small, and their diameter is stated by Prevost and Dumas to be only $\frac{1}{7199}$ of an inch in diameter; and according to Müller's measurement, "in the calf, goat, dog, are only one-half or one-third the size of the red particles of the blood of a mammiferous animal*."

Chyle contains both fibrin and albumen; but yet the fibrin of chyle appears to differ somewhat from that of the blood. According to Brande, acetic acid dissolves but a very small quantity of the coagulum of chyle, whereas this acid readily dissolves the coagulated fibrin of the blood. Hence the coagulum of chyle more nearly resembles that from albumen.

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* Professor Langenbeck, of Gottingen, extracted a stone from the bladder, which was found to consist of this principle. On analysing this substance, they found its elementary composition identical with that of *lithic* acid, minus one equivalent of oxygen. Thus the atomic constitution of lithic acid and xanthic oxide is as follows:—

Lithic Acid.

Nitrogen	= 5 = 30	= 82
Carbon	= 4 = 24	
Hydrogen	= 4 = 4	
Oxygen	= 3 = 24	

Xanthic Oxide.

Nitrogen	= 5 = 30	= 74
Carbon	= 4 = 24	
Hydrogen	= 4 = 4	
Oxygen	= 2 = 16	

Hence, these chemists propose to name uric or lithic oxide.

* Elements of Physiology, p. 558

I have here two specimens of urine: the one is chylous naturally; into the other I have introduced an equal proportion of serum obtained from the blood of one of my dispensary patients, after coagulation. We shall probably be thus able to form some idea of the difference of character exhibited by chylous and albuminous urine.

First, we shall find that both specimens will coagulate on the application of heat; of course, on account of the albumen which exists in both chyle and serum. We, therefore, put a portion of each specimen into each of these glass capsules, and place them in the hot sand. You will observe next the mode of coagulation. The albuminous becomes suddenly dense, opaque, and speedily solidifies; the chylous, on the contrary, shoots out in radii, as it were, from the circumference into the centre, becomes flaky, and the coagulum curdy. This, I believe, to afford a very good criterion for determining to which principle, chyle or serum, the morbid impregnation of the urine is most analogous. Extreme cases are not met with very often, and the characters of coagulable urine, as stated by Prout, are, for the most part, intermediate.

Both specimens are alike precipitated by ferro-cyanide of potassium. For instance, into each test tube I shall introduce a portion of each specimen respectively: we now add a drop or two of acetic acid; and now to each add a little of this solution of the ferro-cyanide of potassium, and you see immediate precipitation takes place; and yet there is a manifest, though not a describable difference, in the precipitation and mode of its subsidence. We shall therefore quit this subject for the present, as we shall have occasion to revert to it again.

CLINICAL LECTURES ON MEDICINE,

Delivered at the Meath Hospital, Dublin,

Session 1837-8,

By Professor Graves.

Lecture VIII.

On the Pathology and Treatment of Syphilis.

(Continued.)

In continuation of the subject spoken of at our last meeting, I shall resume the translation of some of the most important parts of Dr. Fricke's work. The great length of the extracts I am about to lay before you sufficiently attests the value I attach to that work, and I have no doubt that you will concur in the favourable opinion I have formed of the merits of this celebrated surgeon.

Let us now return to Fricke's treatise.

CHANCRES ON THE GENITAL ORGANS.

Of chancres (differing from excoriations by an excavated base, and corroded edges,) we have observed seven different species, distinguished from each other either by their appearance, their degree of intensity and extent, or by the mode of treatment they require.

1*st Species.*—Chancres with a clean, and in general, copper-coloured base; the base deeper than the edges, the edges sharply cut, but not raised above the epidermis; diameter from one to four, and six lines. They constitute the transition from the third species of excoriations.

2*d Species.*—Chancres with an ash-coloured, and usually soft base; the base deeper than the edges, the edges cut, but not raised above the epidermis; the diameter from one line to one or two inches.

3*d Species.*—Chancres with an ash-coloured, and in general, hard base; the base deeper than the edges, the edges sharply cut, indented, raised above the epidermis, everted, often of a dark red colour, and inflamed; diameter from one to four or five lines. (The Hunterian chancre.)

4*th Species.*—Chancres with a depressed base covered with an adhesive, viscid, greyish-green matter. The base is irregular, in many places deeper, in others shallower. The edges cut, raised above the epidermis, everted, often intermixed with livid black (gangrenous) spots; the circumference inflamed; diameter from three or four lines to an inch or two. They are always in connexion with great destruction of the neighbouring parts. (Carmichael's phagedænic chancre.)

5*th Species.*—The base scarcely deeper than the epidermis, but much deeper than the edge; the edge raised above the base and the epidermis, not sharply cut, rounded off towards the base, which it surrounded like a rampart. In general, the base was not ash-coloured, but for the most part of a pale reddish colour, without any appearance of commencing granulations. These chancres were usually attended with a copious discharge, and very apt to produce excoriations of the first species on the parts in their immediate vicinity. With the edge they generally measured from four to six lines in diameter. They were frequently covered with a scab. (Transition to the semiglobular condyloma.)

6*th Species.*—The base raised above the epidermis, of a spongy and in general bluish red appearance; no distinctly formed edges; the surrounding skin not inflamed.

7th Species.—Hæmorrhoidal chancres. Raw surfaces formed on hard hæmorrhoidal tumors, with a whitish but not ash-coloured base. The tumors themselves were flat, compressed, and full of fissures. The tumors often exhibited excavations with an ash-coloured base and corroded edges. These chancres were attended with a copious discharge, and were extremely painful. (Transition to the quadrangular condyloma.)

We have frequently observed a transition from chancres of the first species to the second, third, and fourth, produced by neglect, improper diet, constant bodily labour, and want of attention to cleanliness. We very rarely observed ulcers of the fourth species among females, except in a few cases of maid-servants who had had venereal ulcers for a long time without having any thing done for them. In men we generally observed them behind the glans, in the angle between it and the prepuce. The transition from the first to the other species was sometimes very slow, sometimes exceedingly rapid. Artificial ulcers, formed three times with corrosive sublimate on females, and twice with lapis infernalis on males, resembled chancres of the third species.

With respect to the origin of chancres, those of the four first species were formed in a threefold manner. In the first place, the well-known vesicle, filled with clear pale lymph, formed on the sound or inflamed skin. The circumference became inflamed, the lymph changed into purulent matter, the vesicle burst, and gave rise to a chancre of the first species, which after the lapse of twenty four or forty eight hours became converted into a chancre of the second species, and under the operation of the circumstances already mentioned, into one of the third or fourth species. We observed this mode of origin very often in men, particularly in chancres of the glans, but very seldom in women. In the second place, from excoriations particularly of the third kind, chancres of the first species formed; these either remained in this state, or changed into one of the other three species. The change was generally very slow. Sometimes, however, a slight excoriation of the third kind, from neglect on the part of the patient, before admission into hospital, became converted in the space of three or four days into the phagedenic ulcer of Mr. Carmichael. This mode of origin we have frequently observed in both sexes, particularly in chancres behind the glans. In the third place, chancres formed in the mucous follicles of the inside of the nymphæ, the openings of which are very distinct, particularly in young females. These small follicles inflamed, suppurated, and, when the openings closed, and the pus went deeper, formed abscesses. When the matter was discharged externally (a much more frequent occurrence) either by the pus escaping through the natural opening, or by the breaking of the abscess, chancres were formed most commonly of the second species. In this manner fistulous and chancrous ulcers formed, which on account of their minute size, and concealed situation, repeatedly escaped an unpractised eye. We frequently found ulcers on one and the same spot in prostitutes, and this spot proved to be the seat of a fistulous follicle: when this was destroyed with caustic, the tendency to have chancres on one and the same spot ceased. These fistulous ulcers looked like a small, thin, dark red follicle, darker than the surrounding healthy membrane, with a small opening in the centre, permitting the escape of a small quantity of pus on pressure, and with their edges inverted. This origin of chancres was extremely frequent among females; on the other hand, we have seen only a few examples of it among males, on the inner lamella of the prepuce. These mucous follicles often closed, and seemed to be healed up, but always broke out again in a short time.

Chancres of the fifth species, in cases where we had an opportunity of observing their mode of origin, formed from semiglobular condylomata, which having first secreted a fluid, and afterwards been exposed to friction, gave rise to excoriations.

On the origin of the sixth species, we had no opportunity of making any observations. Hæmorrhoidal chancres formed where hæmorrhoidal tumors were exposed to friction, and to the contact of leucorrhœal or gonorrhœal matter.

Chancres of the first four species in women were most commonly situated on the fossa navicularis, the remains of the hymen, the internal wall of the nymphæ, in the angles between the nymphæ and carunculæ myrtiformes, and on the anterior edge of the labia; less frequently in the urethra, and around it, in the angles between the labia and nymphæ, on the outer surface of the nymphæ, on the frænum itself; more rarely still in the space between the urethra and vagina, or between the urethra and the clitoris, on the outer surface of the labia, or in the vagina. In the latter case, we always observed a smaller or greater protrusion of the walls of the vagina, on which a chancre of small size was discovered. Chancres on the anus (which were observed only in a few cases) were the result of unnatural coition.

In men chancres were situated on the glans, behind the corona glandis, on the frænum, on the inner surface of the pre-

puce, in the urethra, and at the junction of the external with the internal lamella of the prepuce; less frequently on the outer lamella of the prepuce, on the dorsum or under surface of the penis, and on the scrotum; still more rarely, on the perineum, anus, pubes, and inside of the thigh; the latter from contact with the organs of generation.

Chancres of the fifth species were situated in women on the labia, the outer surface of the nymphæ, the inner and upper part of the thigh, and frequently on the perineum; in men on the scrotum and penis, particularly the under surface, the perineum, and the upper and inner part of the thigh. All ulcers occurring on the scrotum exhibited this form.

Spongy chancres (sixth species) were seated on the inner lamella of the prepuce, and sometimes in the angle between the prepuce and glans.

Hæmorrhoidal chancres of course were naturally seated on the circumference of the anus.

With respect to the prognosis of chancres, we were always able to make it invariably good. None of the different species extended to any remarkable degree either in depth or circumference, when once submitted to treatment. Even phagedænic chancres, which had in many cases committed great ravages before the patients' admission, healed in such a manner that a considerable portion of the devastation was repaired by healthy granulations. In one case only, a large portion of the glans which had been lost before admission was never reproduced. All the ulcers healed, and all the cicatrices were firm and good. With respect to each individual species the following was our experience.

1. On the whole, chancres of the first species healed in the shortest space of time. Those of the second and third healed more slowly, those of the fourth most slowly. The spongy chancre (6th species) occupied an intermediate rank; the condylomatous (5th species) and the hæmorrhoidal chancre (7th species) were often extremely obstinate.

2. Hunterian chancres so small as to measure only a line in diameter, were (proportionally to their small size) extremely slow in healing.

3. Chancres around the orifice of the prepuce, on the scrotum and perineum, were generally slow in healing; those behind the corona glandis, on the glans and on the labia, required for the most part but a short time for their cure. Ulcers on the frænum in males were very slow in cicatrizing.

4. Chancres produced and kept up by a mucous follicle, usually did not heal until the follicle was destroyed.

5. Chancres healed in the best and speediest manner with patients who had used nothing for the disease before admission: they were most obstinate in patients of a scorbutic, scrofulous, or phthisical habit.

6. Chancres with a brownish base were generally tedious.

7. Some chancres proved remarkably obstinate, without any sufficient cause that we could discover.

8. Chancres made by art required the same time for their cure as Hunterian chancres of similar size.

With respect to treatment, the following details exhibit the course pursued:—

In all cases where chancres were seated in the folds of the organs of generation, as, for instance, between the labia and nymphæ, the latter and the carunculæ myrtiformes, &c. the lips were separated, the angles cleared, frequently washed, and covered with charpie dipt in water or saturnine lotion, and the dressing renewed two or three times a day. If the ulcer suppurated freely, the dressing was used oftener. If there was no advance in the healing process, the lotions were changed, and lime water, aqua phagedænica nigra, a solution of four grains of sulphate of zinc in eight ounces of water, decoction of elm bark, a scruple of the oxide of zinc in eight ounces of saturnine lotion, were then employed. Or recourse was had to ointments, which were used chiefly in cases where the chancres had become very small, and suppurated sparingly. Zinc ointment, or the following, were in general preferred.

℞ Unguenti Zinci, ℥ss.; Balsam. Peruviani, ʒj.; Pulv. Lapidis Infernalis, ℈j.; M. Signetur—the black ointment.

This was found extremely serviceable in cases where the ulcer was healed up to a certain point, but would not cicatrize. The ointment was allowed to remain unchanged for two or three days, until it was thrown off by pus, or with a scab. If the new skin exhibited any roughness or chapping, so as to threaten to break, and become raw again, we were in the habit of smearing it with zinc ointment for several days successively.

In case of ulcers with a copper-coloured base, marsh-mallow ointment did more service than any thing else. Often we were obliged to try many ointments before we could hit on a good one.

When the healing process was advancing, pencilling the edges of the sore with a weak solution of lapis infernalis, greatly promoted diminution of the chancre.

Condylomatous (5th species) were treated in the commencement, partly by frequent

ablution with soap and warm water, partly by applying pledgets dipped in saturnine lotion. After this they became drier, the central portion of the base became elevated, and the edges began to approximate and unite. The semiglobular elevations also diminished, but they were rarely removed by these means alone. They were then pencilled over with Plenk's liniment, according to the following recipe:—

℞ Mercur. Sublimat. Corrosiv. Camphoræ, aa. gr. xij; Alum. Crud., Sacch. Saturni, aa. ℈j. Misce, terendo et adde Acet. Concentr. ʒij. Solutioni vitro immissæ adde Æther. Sulphur, ʒj. Conquassa. Signetur "Plenk's Liniment."

When the elevations had been pencilled for a few days with the white sediment of this liniment, they began to exfoliate, shrink, and diminish in size. If they resisted this application, they were touched for several days in succession with fuming nitric acid, or cut off with the scissors. This kind of ulcer, however, was very apt to return again where attention to cleanliness was omitted.

The spongy ulcer (6th species) was covered with charpie dipt in the following lotion:—

℞ Aluminis Crudi, Cupri Sulphatis, aa. ℥ss., Aqua fontanæ, ℥xij. M. Signetur "the green lotion."

If this happened to be too strong, the decoction of elm bark was substituted. The ulcers were treated in this way until the base became reduced to the level of the skin, a small palish blue film surrounded it, and the raw surface in this way diminished in size.

Hæmorrhoidal chancres were also treated with saturnine lotion; in many instances hard hæmorrhoidal tumors were cut off with the scissors.

On many occasions we have attempted to destroy with caustic the small vesicles from which chancres often arise, in order to prevent the formation of chancres; but a much larger sore was produced in this way, than if they had been allowed to run their course as usual. Sometimes, however, we succeeded in preventing them from passing into chancres by smearing them with zinc ointment as soon as ever they were observed on the glans. Under this treatment they sometimes dried up without forming sores.

Cataplasms were very often employed; under the following circumstances they were very efficacious:—1st. Where the edges of the sore were very hard, callous, and everted. 2d. Chancres would frequently heal up to the size of a millet seed, and then become stationary, or even get worse, from the formation of excavations under the edges. In such cases we applied charpie dipped in decoction of elm bark over the ulcer, and over the latter a poultice. These measures in general answered our expectations. 3d, When the base was covered with a firm, dense, ash-coloured layer. 4th. Fistulous ulcers of the mucous follicles were often healed up completely by cataplasms. 5th. We also found them extremely serviceable in softening hard, callous, and chapped cicatrices. Finally, when cicatrices broke out afresh a few days after healing, we applied cataplasms either immediately over the raw surface itself, or previously touched with zinc ointment, black salve, or the lotions above mentioned.

We observed that the four first species of chancres were accustomed in healing to pass through the four stages already mentioned, in succession. Often a phagedænic chancre, after three or four, and sometimes after eight or ten days, began to change its character, the edges became softer, flatter, less elevated, and less everted, and the surrounding inflammation assumed a milder aspect. The ash-coloured layer which formed the base became thinner, the gangrenous parts were detached, the inequalities of the base disappeared, and new red and healthy granulations sprang up among the ash-coloured spots which formed the base. The edge then sank on one side (rarely at different spots simultaneously), the base became elevated in the same direction, suppuration went on healthily, and small but not well-defined patches of epidermis became visible on the surface of the ulcer. The remaining edges sank down in a similar way, the base became elevated, the small cicatrized points approximated, and the ulcer completely healed.

A very large deep phagedænic ulcer with or without phymosis required from four to six or eight weeks, and sometimes more, to heal.

ON THE PREDISPOSITION TO CHANCRES.

We have often been able to verify the observation, that many men, and young women especially, are extremely liable to venereal infection, and in particular to the formation of chancres. The following are the results of our experience on this point:—

1. All young women not attentive to due cleanliness were very easily infected. We have seen this observation confirmed in numberless instances. From some brothels, young women labouring under syphilis, and particularly under chancre, were sent to us much more frequently than from others; from the former the greater number of patients affected with itch were ad-

mitted, and much less cleanliness was observed than in the others.

2. Young women with very narrow vaginæ were very readily attacked with excoriations of the nymphæ, the carunculæ myrtiformes, and fossa navicularis, which subsequently became chancres. Whenever we meet with this state we endeavour to dilate the vagina with bougies gradually and cautiously employed.

3. The shorter the period elapsed since defloration, the more readily did chancres and excoriations form; since prostitutes who had been a long time on the town were much seldomer infected.

4. Young women of scrofulous habit or very delicate skin were very apt to get chancres.

5. But, above all, those who had the mucous follicles of the vagina highly developed were peculiarly liable to the formation of chancres or abscesses. The mouths of these follicles, particularly in young women of full habit, may be seen very distinctly on the inner surface of the nymphæ. They are sometimes so large as to admit the end of a probe with ease. When inflamed, the parts around are of a darker colour, and the mouth of the follicle somewhat elevated. As we have already stated, they become very readily converted into abscesses, but more frequently into chancres. Sometimes, on dismissing a female patient, we have been able to determine before hand the spot on which a chancre would be found on the next infection, viz., the situation of mucous follicle with a large opening. Hence we have often thought it necessary to make an incision through the follicle, and then burn it out completely with lapis infernalis; after which we never found a chancre to form on the same spot.

CONDYLOMATA.

Condylomata, which are so rarely seen in this country (at least in proportion to the other forms of primary syphilis), constitute one of the most common forms of the disease in Germany, and are looked upon as extremely obstinate, slow in healing, and very apt to return. Six different species have been observed by Dr Fricke.

1. Conical condylomata.—These resembled grains of peeled barley, of a whitish colour, aggregated, and more commonly observed in females. Their situation was on the inside of the nymphæ, between the nymphæ and labia in the vagina, behind the corona glandis, and on the inside of the prepuce. They required excision and cauterization, and were very apt to return. They sometimes disappeared spontaneously during the period of the catamenia.

2. Scollop-shaped condylomata.—These sometimes resembled a cockscomb in shape, sometimes they were more like a strawberry or a cauliflower, but the original form was that of a scollop or cockscomb. They grew to the height of half or three-quarters of an inch in some instances. When small they were generally of a white colour, and covered with a whitish exudation. They were of a delicate texture, hollow, and when tied, appeared full of bright red blood. When cauterized superficially they increased in size, and became indurated on the surface; they were in general aggregated, and occurred more frequently in men than in women. Their situation was for the most part the same as that of the foregoing. Sometimes they projected from the urethra and were occasionally found in the vagina. They required excision and full cauterization, but often disappeared of themselves or under very simple treatment. They were treated with lapis infernalis, Plenk's liniment, calomel and powdered savine, a solution of corrosive sublimate (gr. i. ad ℥i.), and excision.

3. Polypoid condylomata.—These were fleshy, roundish, soft, and somewhat redder than the mucous membrane of the vagina. The base was as broad as the summit. They were seldom observed, occurred only in females, and on the perineum between the labia and nymphæ, and on the clitoris. When removed by excision, and cauterized, they seldom returned.

4. Urethral condylomata.—These were observed in females at the opening of the urethra, and differed but little from the polypoid condylomata. They were sometimes cured by excision and cauterization; sometimes they were so obstinate that it was found useless to apply any remedies. Several prositutes were known to have them for a considerable time and follow their avocation without injury to others.

5. Semiglobular condylomata. — These were seated on the skin, with a broad surface, and varied from the size of a split pea to that of half a musket-ball. They were pale or whitish, covered with moisture, somewhat excoriated, and became converted by neglect into condylomatous chancres. They were generally situated in the vicinity of, but not on, the mucous membrane of the organs of generation. They were extremely infectious, and readily gave rise to similar condylomata or chancres on the parts with which they lay in contact. Their treatment was very simple; cleanliness and isolation were the principal requisites. When reduced to certain size, by use of simple astringent washes, they were completely removed by caustic applications.

6. Quadrangular condylomata.—These were seldom observed, were more common among males than females and were always

situated round the anus. Their form was square or trapezoid, compressed on the surface, lying close together, and separated by fissures from which a considerable quantity of moisture exuded. They were somewhat paler than the epidermis, and in some cases seemed to have owed the origin to old indurated homorrhoids. They required more active treatment than the foregoing and were slower in disappearing.

Condylomata of all kinds, occurring in pregnant women were treated, with caution, and excision or cauterization was seldom employed.

VENEREAL SORE THROAT.

(*Chancres in the throat—Chanker im halse.*)

Venereal sore throat appeared in the form of ulcers of the tonsils, the arches of the palate, the uvula, the soft palate, or the posterior wall of the pharynx.

With respect to their origin and course, ulcers of the tonsils exhibited the three following forms.

In the first form the tonsils swelled, acquired a deeper red colour, produced slight pain in swallowing, either at the commencement or subsequently, and gave a kind of nasal tone to the speech. The tonsils then increased in circumference and depth, and exhibited on the surface white purulent vesicles, which burst became gradually deeper and formed ulcers which at first had nothing characteristic, but by neglect, became greatly enlarged and assumed an ash-coloured appearance; when the tonsils happened to be greatly enlarged and swollen the base of the ulcer appeared hollow; the edges were sharp corroded and everted. The base was often of a greenish colour and the circumference inflamed. In this way these ulcers would pass through the four first stages of ulcers on the genitals, with this exception, that they never became truly phagedænic. When the ulcers went on unchecked they became larger and involved the neighbouring parts (this however rarely occured) or new ulcers formed in the vicinty and coalesced with the latter. The healing process went on as in the case of ulcers of the genitals, with this exception, that it was often difficult to determine with precision whether the tonsillar ulcer was really healed or not, because the cicatrices looked deep and angular at first, or even for a considerable time, and were often covered with whitish streaks, which might be easily mistaken for ash-coloured ulcers.

Ulcers of this form appeared almost as frequently after the mercurial as the non-mercurial treatment, and were generally observed on men of robust habit. They healed slowly, and were very apt to return. The second species of ulcers of the tonsils formed without tumefaction or inflammation. The first appearance was a broad patch of excoriation the ase of which exhibited nothing like excavation, but on the contrary was often elevated. It was either not at all, or very slightly ash coloured, the edges indistinctly cut. This excoriation extended over the whole tonsil and had this peculiarity, that it very seldom affected the voice and only in a very slight degree. Ulcers of this description were most common after the non-mercurial treatment They were cured easily and rapidly, and often healed spontaneously.

In the third species of ulcer the tonsils swelled greatly, but were neither inflamed, painful, nor altered in colour. Circular excavations formed, secreting a muco-purulent fluid, and of which it was impossible to say with certainty, whether they were real ulcers or the mouths of the enlarged mucous follicles. These swelling affected deglutition, but did not in general interfere with speech; they appeared most frequently after the mercurial treatment, did not get worse, and, when they had attained a certain height, generally resisted all applications so as frequently to require excision. Enlargements of the tonsil without any ulcer-like cavities were not unfrequently observed; these either formed of themselves or remained after the healing of ulcers of the third species, and often required excision.

Ulcers of the arches of the palate and uvula were frequently observed. They were always ash coloured, surrounded by an inflammatory border, interfered greatly with speech, and generally appeared after the mercurial treatment, but were not refractory to treatment.

Ulcers on the soft palate commenced in the form of vesicles situated on an inflamed base, containing, the first day, a transparent fluid, which became thicker on the third and fourth day, when the vesicle burst, and became converted into a Hunterian chancre. Frequently, a number of them formed simultaneously, increased in size, coalesced, and in this way gave rise to ulcers of very considerable size.

Ulcers on the posterior wall of the pharynx had always an ash-coloured base, altered the speech greatly, were in general covered with a viscid greenish mucus, a portion of which flowed down when the mouth was opened so as to render it a matter of difficulty to recognise them. Ulcers of this kind always appeared after long mercurial courses, and healed very slowly but with certainty.

OBSERVATIONS
ON
THE EMPLOYMENT OF THE SOLID NITRATE OF SILVER,
In Stricture of the Urethra, and in other Affections of the Urinary Organs.

By T. B. Curling*.

[Read at the Hunterian Society, Dec. 12, 1838.]

[Concluded from p. 601.]

On the employment of the solid Nitrate of Silver in the Treatment of other Affections of the Urinary Organs.

On examining the urethra of persons who have suffered for some considerable period from permanent stricture in the urethra, accompanied with a constant mucous or puriform discharge, but who may have died of some other disease, the lining membrane of the canal behind the obstruction, and especially near the bladder, appears swollen and injected, and the follicles of the prostate are found enlarged; the glands being sometimes converted into a number of alveolæ or cells, communicating with each other, and lined by a membrane very similar in character to the diseased urethra. This membrane furnishes a puriform secretion, which, on squeezing the prostate, freely escapes from the numerous openings on the sides of the vera montanum. The local application of the nitrate of silver is by far the most effectual, if not the only, means of restoring these parts to a sound state. It allays the morbid sensibility, and arrests the unnatural secretion. The nitrate of silver, when applied to the prostatic parts of the urethra in these cases, appears to act on the follicles of the prostate gland very much in the same way as a stimulating application to the conjunctiva of the eye relieves a morbid condition of the membrane of the nasal sac or duct, by being absorbed at the puncta lacrymalia. The dissolved caustic entering at the enlarged orifices at the sides of the veru montanum, thus reaches the interior of the gland. Now changes of a similar nature to those which I have just described, are sometimes met with in individuals who, without being affected with stricture, have been troubled for a long period with an obstinate discharge from the urethra, which has been established after repeated attacks of gonorrhœa. Cases of this kind are not very uncommon, and are often treated with cubebs, the balsam of copaiba, the application of leeches to the perineum, and hip-bath, without benefit. Patients labouring under this troublesome affection, experience a dull pain or uneasy sensation in the perineum and towards the anus, which is increased after much exercise. They are often troubled with a sudden, violent, and irresistible desire to void their urine; and when the water passes, they suffer a sharp and distressing sensation at the neck of the bladder; they are likewise subject to frequent nocturnal emissions of semen. On introducing a catheter, no obstruction is met with, and it passes without giving uneasiness until it approaches the bladder, when it causes such acute pain, that the presence of the instrument can scarcely be tolerated even for a few seconds. The use of the caustic in cases of this kind is strikingly beneficial. When applied to the prostatic part of the urethra, it occasions for the moment a sharp smarting pain, which ceases in about half an hour after the instrument is removed. The first time that the water passes there is increased scalding, and for a few days after the operation the discharge is usually more copious; but it gradually becomes thinner, and ceases altogether, as well as the pain and irritability, in about a fortnight or three weeks. When the disease is severe, or of long duration, it is generally necessary to repeat the cauterization two or three times; and in some cases the *pulvis cubebis*, in small doses of a scruple or half a drachm, will materially aid the cure. The efficacy of the caustic in these affections is exhibited in the following case:—

Irritability of the Prostatic part of the Urethra, and Chronic Discharge, cured by the local application of the Nitrate of Silver.

E. Lyon, a Jew, aged 24, of a spare habit, applied at the London Hospital for relief, October 27, 1837, on account of retention of urine, which had come on suddenly after some intemperance in drinking. He was relieved by one of the dressers, and no difficulty was ex-

* In the former part of Mr. Curling's paper, last number, p. 598, l. 44, c. 1, "the coagulation of albumen" should have followed the words "instantaneous chemical action."

perienced in passing a catheter into the bladder. He came under my care as an out-patient, November 1, complaining of a distressing pain in the perineum when he voided his urine, and so much irritability of the bladder, that he was compelled to make water ten or twelve times in the course of the day, and was very frequently disturbed during the night. There was a slight discharge from the urethra. On inquiring into his habits, he informed me that he was tolerably temperate, and that he was a single man, but had cohabited with a woman for two years. About five years back he received a kick in the perineum, to which circumstance he attributed his complaints. Two years after this injury he was seized with retention of urine, after catching cold, since which he has suffered more or less from the symptoms which have been described. He has had several attacks of gonorrhœa at different times, and the last was contracted between three and four years ago.

I passed a full-sized catheter, and ascertained that the canal was free from obstruction, but a sharp pain was experienced when the instrument reached the prostatic part of the uretha. His urine was highly acid. The carbonate of soda, balsam of copaiba, with the liquor potassæ, hip-bath, and rest, were tried without affording any decided relief. I therefore touched slightly the prostatic part of the urethra with the nitrate of silver. It was followed by a sharp smarting sensation, which lasted nearly an hour, and for a few days afterwards there was a pretty free discharge. At the end of a week the pain in the perineum on making water and the irritability were much diminished. I ordered him to take the carbonate of soda, and, after a month, finding that he was still troubled with a slight discharge, and that the pain and irritability were not entirely removed, I re-applied the caustic in the most transient manner possible. It was followed by much less pain than before, and by a very slight increase of the discharge. In another fortnight all the uneasy symptoms were removed, but there was still some little discharge. I now ordered half a drachm of the cubeb powder to be taken three times in the day. This succeeded in arresting the discharge; but, being followed by uneasiness in the loins and hypogastric region, it was, after a few days, discontinued, and he was ordered a warm bath, when these symptoms shortly disappeared, and he was discharged cured. This man experienced no return of his complaint until the month of November this year, ten months after he had been under my care, when he applied again on account of a slight return of the uneasiness in the perineum and irritability of the bladder, but without discharge. These symptoms were not, however, sufficiently severe to induce me to apply the caustic, and by rest, the warm bath, and carbonate of soda, they soon disappeared.

The chief inconvenience liable to result from the use of caustic in these cases, is occasioned by the extension of inflammation along the ejaculatory canals and vasa deferentia to the testicles. The original disease may have previously given rise to inflammatory swelling of these glands, and left a tendency to relapse from slight exciting causes. But should this unfavourable circumstance ensue, and it is not a common occurrence, the inflammation may be readily combated by the usual means. In an affection of so intractable a nature as this complaint at the prostatic part of the urethra, the risk of bringing on hernia humoralis cannot be considered a material objection to the use of the caustic, as the same result sometimes happens after the introduction merely of a catheter, and is at all times liable to occur from excitement of any kind, as long as the disease lasts. After the application of the nitrate of silver in these cases, it is desirable to keep the patient in a recumbent position for some hours, to confine him to a spare diet for two or three days, and to direct him to take freely of diluent and mucilaginous drinks. If the smarting pain do not subside in a few hours it will be proper to apply a few leeches to the perineum, and to order a hip-bath.

We sometimes meet with a very similar affection of the mucous membrane of the urethra, at the anterior part of the canal. After the more severe symptoms of an acute attack of gonorrhœa have subsided, the patient often experiences a sharp cutting pain on making water, which is referred to a particular spot in the urethra generally within two inches of the external orifice, and

is attended with a slight yellow discharge. This spot is sometimes tender on pressure externally, and the introduction of a bougie, though passed without difficulty, causes very acute pain. The usual remedies exhibited in gonorrhœa fail in affording relief, and the complaint generally continues to distress the patient more or less for several months, until ultimately it wears itself out. From the severity, obstinate continuance, and fixed situation of the pain, the practitioner often suspects the existence of an ulcer in the mucous membrane. I have no doubt that in the majority of instances this affection depends upon a morbid change in the membrane of the urethra, involving frequently one of the follicles, which is also spongy, vascular, and highly sensitive. One or two applications of the caustic, which may be made with the greatest facility and safety, are usually sufficient to correct this state of the membrane in a short time. It is very desirable that this complaint should not be suffered to continue, as besides being the source of much uneasiness, it may lead to the formation of a permanent stricture in the canal.

Professor Lallemand, of Montpellier, who is well known in this country by his valuable researches on the pathology of the brain, and who enjoys on the continent a very high reputation for the successful treatment of the diseases of the urinary organs, has resently recommended the local use of the lunar caustic for the removal of chronic inflammation of the bladder*. It appears that he was induced to resort to this remedy in consequence of his caustic instrument having on one occasion accidentally slipped into the bladder, and cauterized the mucous membrane, when insted of the dangerous consequences which he anticipated, it had the effect of curing a chronic cystitis, under which the patient happened to be suffering. That the beneficial action of the nitrate of silver in many of the diseases of the mucous membranes has not yet been sufficiently appreciated, and that there is less danger than many might suppose in applying it in a transient manner to the interior of the bladder, I am fully inclined to believe. But chronic cystitis is rarely an original complaint. It generally depends on disease of the prostate, stone in the bladder, or long-continued stricture of the urethra, and is not likely to be permanently benefited by any method of treatment until the cause producing it is removed. It certainly does occur in some few instances, without any evidence of disease elsewhere, and in such cases when all other means have failed, I see no great objection to the solid nitrate of silver being cautiously tried, but I have not hitherto met with any case in which I should have felt justified in resorting to this remedy.

* Vide a paper in the September number of the *Dublin Medical Journal*, for 1838, by Dr. J. O. Bryen, on Chronic Cystitis, with Observations on the employment of the Solid Nitrate of Silver in Catarrh of the Bladder, as practised by Professor Lallemand, of Montpellier.

RE-VACCINATION AT THE FOUNDLING HOSPITAL.

To the Editor of the Medical Gazette.

SIR,

I HAVE recently submitted 216 children at the Foundling Hospital to the test of re-vaccination, and as this subject is just now creating so much interest among the members of the profession, it may be useful to lay before your readers the result of my observations upon these cases.

Of these two hundred and sixteen re-vaccinated, *eleven* went through the different stages of *regular* cow-pox, as if they had never had the disease; proving that in these the primary vaccine had lost its prophylactic power.

In *one hundred and twenty-two* a spurious form of cow-pox was developed, producing in some considerable local inflammation and constitutional disturbance. The irregular nature and progress of the spurious affection in all these cases, proved that the constitution was still under the protective influence of the first vaccination.

In *eighty-three*, no effect (more than slight irritation from the puncture) was produced, though many of them were re-vaccinated twice, thus affording negative evidence of the undiminished preservative powers of the primary vaccine.

I was led in the first instance to recommend a general re-vaccination of the children, from observing that the arms of many of those recently arrived from the country (of the age of five)

presented very imperfect cicatrices: but I think the following short observations will go far to prove that the condition of the cicatrix does not furnish any criterion whereby to estimate the success or efficacy of the early vaccination, and I feel justified in concluding that the intensity of the local inflammation produced by the vaccine virus, bears no relation to its subsequent protective virtues.

Of the *eleven* cases re-vaccinated in which all the stages of natural cow-pox were regularly developed, *eight* presented *perfectly formed cicatrices*, (some having four, none less than two); *two* presented *no trace* of a cicatrix; and *one* had an imperfect scar. The youngest of the eleven was æt. 5, the oldest æt. 13.

I selected three arms, in neither of which could any trace of a cicatrix be discovered (though the children were all carefully vaccinated when infants), and I re-vaccinated them TWICE with the greatest care from a fine arm without *any result*, more than a slight degree of inflammation in one out of the three cases.

Being desirous to employ only recent lymph from the infant's arm (for the greater security of the children re-vaccinated), I had no extensive opportunity of testing the lymph of those cases of successful re-vaccination, and the few experiments which I did make were inconclusive.

I will conclude this brief notice by earnestly calling the attention of the profession to the necessity of enforcing the practice of periodical re-vaccination. The period of time during which the vaccine may be said to preserve its prophylactic power does not seem to be agreed upon; and, in the absence of any positive rules for our guidance, it is surely better that we should be on the safe side, and as we do see cases where we must believe that the regular cow-pox has been produced twice within the period of five years, we should consider this the maximum term of years over which the protective power of vaccine may be said to extend, and re-vaccinate accordingly every *fifth year*.

I am, sir,
Your obedient servant,
WILLIAM B. HUTCHINSON.

14, Guilford Street, Jan. 12, 1839.

ON THE USE OF ERGOT.

To the Editor of the Medical Gazette.

SIR,

I THINK it my duty to send for insertion in your excellent periodical, the following case, in which I was induced to adopt the treatment, employed in consequence of reading your paper of Dr. Patterson, in your number for Sept. 8th last, 1838.

Harriet Sander, æt. 43, has been pregnant thirteen times and miscarried twice. In her sixth labour she was attended by three medical gentlemen of Cheltenham, and was with great difficulty, and after much suffering, delivered, the child being born dead. In the next labour she was attended by Mr. Sadler, an intelligent practitioner, residing at Shurdington, who, after waiting about twenty hours, and finding the natural efforts ineffectual, sent to request my assistance. I found the patient in an exhausted state, and after several fruitless attempts to apply the forceps, with the use of which I am familiar, I was compelled to have recourse to the perforator to accomplish the delivery. On the subsequent pregnancies we were obliged to resort to the same means, the difficulty increasing on each occasion, from what appeared to me to be a decided narrowing of the pelvis.

Nov. 30, 1838.—On the next occurrence of pregnancy I was consulted. The patient reckoned she was seven months advanced.

Capiat Quamprimum Hydrarg. Sub. gr. iij. Ext. Colocynth. c. viij.

Dec. 1st. — Pills having acted four times, at 8 A.M. she commenced taking an ounce of infusion of ergot of rye (made in the proportion of half an ounce to twenty-four ounces of boiling water), at regular intervals of three hours.

After taking the second dose she felt premonitory pains; at 3 P.M. the pains were increased. She continued to take the same dose of the infusion at the regular intervals, till 2 o'clock next morning.

At 5 o'clock A.M. Mr. Sadler was sent for, and in an hour afterwards the child was expelled, the placenta following in about ten minutes, without hæmorrhage.

6th.—The woman and child going on well. The subsequent recovery of both was complete.

Some observations having lately appeared in the MEDICAL GAZETTE relative to the general use of the ergot of rye, I will take this opportunity of remarking, after an experience of more than two thousand cases of midwifery, that I consider it to be a most valuable agent in the obstetric art, but one that ought not to be indiscriminately used; and I should deprecate the practice of accoucheurs taking it with them to every labour, and giving it in all cases where a tedious parturition renders it trying to their patience or an inconvenient sacrifice of their time. Nature ought not to be lightly interfered with in a process she has arranged with so much order and guarded with so much care, and which, in the great majority of cases, she carries out effectively, surely, and safely, without being forced to do her work by the gratuitous aid of impatient interference. I would on no account recommend the use of it in first labours, nor in those cases in which thickening or rigidity of the os uteri exists, for I feel satisfied that in such instances the violent contraction of the uterus frequently destroys the life of the fœtus.

It may be advantageously used where the head of the child has entered the inferior aperture of the pelvis, and where there has been for some time lingering and ineffectual pains, whether the os uteri be widely dilated or not.

I have met with females who always flooded after labour, and have found that in these cases the secale cornutum, given in a half drachm dose about fifteen or twenty minutes before I expected the birth of the child, has invariably prevented subsequent hæmorrhage.

In the administration of the ergot I never consider myself safe after the birth of the child, until by slight extension I have drawn the placenta into the vagina, for I have had three cases in which the os uteri having contracted closely round the funis, the most powerful extension has failed to bring away the placenta, and I have been obliged to introduce my hand into the uterus—a painful and difficult task from the resistance which the os uteri offered to every attempt at dilatation.—I am, sir,

Your obedient servant,

H. HEANE, M.R.C.S.

Gloucester, Jan. 15, 1839.

MR. MAYO

ON THE USE OF THE TENDINOUS INTERSECTIONS OF THE RECTI MUSCLES.

To the Editor of the Medical Gazette.

SIR,

SOME discussion having been begun in your journal on the uses of the tendinous intersections of the recti abdominis, and a difference of opinion having been manifested, one party assigning a disputable use, and the other denying any use in this arrangement, I applied to Mr. Mayo for his judgment on the subject, which he gave me permission to communicate through your pages to such of your readers as take interest in physiological questions.

I am, sir,

Your obedient servant,

J. C. C.

January 15th, 1839.

The tendinous intersections of the recti abdominis, whatever additional uses they may serve, have reference to two peculiar circumstances attending some of the occasions on which those muscles are required to act.

The first circumstance referred to is, that in certain positions of the body the recti describe a curve, and have to maintain or increase that curve, while they are in action. When the trunk is bent forwards in a spare person, the recti represent a curve having its concavity forwards. When the body is in this posture, not only may the recti be in strong action, but in general their agency is immediately employed to produce the posture. So that, contrary to the ordinary habitudes of muscles in action, the whole mass of fibres of the recti during its contraction may lie less direct between its attachments, than in all its antecedent state of relaxation. To meet this peculiarity, the recti are *jointed* by tendinous intersections; which when braced tight by the fibres of the internal oblique, with the tendon of which they cohere, allow the intervening portions to describe arcs of segments of the entire curve, and permit the whole to become concave forwards, while its several parts are shortening, and perhaps straightening.

The second circumstance referred to is, that one portion (in length) of the recti may occasionally have to act with-

out the other. This power of partial action is again obtained for these muscles through their *adherent* tendinous intersections. One half of the fibres of the recti is thus enabled to act without the rest. Its action is limited by the line of adhesion at the intersections. The following is an instance in which this partial action may be observed to take place:—In a common gymnastic feat, the performer, hanging by both hands from an horizontal pole, lifts himself by the muscles of the arms and shoulders vertically, till half of his body is higher than the pole. In this action the principal strain felt by the performer is upon the *upper halves of the recti*, which are dragging from the sternum and ribs upon the adherent tendinous intersections (pulling, by this means, the lower part of the body upwards), as if they drew upon so many belts, which are fixed or girded by the action of the oblique and transverse. The lower halves of the recti are at the same time in very moderate action.

"The tendinous intersections of the recti have thus two offices; one, to *joint* the muscles, and so to allow them to form a curve when acting; the second, to permit half the length of either muscle to act without the other half."

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

A Letter to Dr. Chambers, F.R.S. &c., on several important points relating to the Nature and proper Treatment of Gout. By Sir CHARLES SCUDAMORE, M.D., F.R.S., &c. London, 1839. 8vo. pp. 59.

THE gout, says Sir C. Scudamore, was once a neglected disease, to such a degree, indeed, that an eminent physician, having been sent for to a gouty patient, did not pay him a second visit, "because, in his candour and love of truth, he declared that he knew not how to treat the gout with success." (P. 2.)

It is not so now; nor is it any longer a *cherished* disease, as it appears to have been in Heberden's time. Quite the reverse; every body is now anxious to get rid of the gout as fast as possible; so that patience and flannel have been succeeded by Kinglake's cold water treatment, the *eau médicinale*, and colchicum in various shapes. The form preferred by our author is the acetic extract, combined with magnesia, Epsom salts, and some aromatic water or tincture.

Dr. Wollaston was so charmed with the magic of colchicum, that he said mankind were not worthy of so great a blessing as this was to gouty persons; but Dr. Scudamore thought it "a palliative rather than the curative remedy; and that the means of lasting cure, if such a phrase may be adopted, were to be sought for in such remedies and general treatment as should be best adapted to correct the errors of the constitution in the individual case. It was my object, therefore, to make the least, rather than the greatest use of colchicum." (P. 6.)

Like all other active medicines, this one has been abused, particularly by patients who have taken the management of their cases into their own hands. Our author has known several instances of this, and in two of them gastric fever and death were the result.

He observes, that the diagnosis of gout from rheumatism is generally easy, and when difficult is probably of not much practical importance.

"All," he says, "of every age and station, are subject to rheumatism; but gout visits not the poor man's cottage; and here I may quote the beautiful language of the poet:—

"'O fortunatos nimium, sua si bona nôrint, Agricolas,' &c."

Why, yes, the cultivator is fortunate enough if he happens to farm two or three hundred acres of his own land; with tolerable management he may keep off both gout and rheumatism; but if he should be the tenant of a "poor man's cottage," an *agricola* with seven shillings a week, we fear that rheumatism and asthenic diseases will more than balance the want of gout; and we should look into Crabbe rather than Virgil for verses applicable to his condition.

As to the treatment, Sir C. Scudamore, believing that the functions of the liver are almost always disordered in a fit of the gout, and are often indeed the cause of it, thinks mercurial purgatives and alteratives of primary importance. They are not, however, to be given till

salivation is produced, this state being particularly injurious to gouty persons. Colchicum is to be given as a palliative rather than a specific; and the acetum colchici is sometimes prescribed by our author in effervescence with the bicarbonate of potash; magnesia and Epsom salts being contained in the same draught.

"For the relief of pain, and the procuring of sleep, I place my dependence rather on the sedative liquor of opium and acetate of morphia, joined with a sudorific, than on colchicum. There are cases of gout complicated with other malady, in which I would refrain from making any use of colchicum whatever." —(P. 38.)

Sudorifics and emetics are sometimes useful: bleeding is not a remedy for the gouty inflammation; but, if demanded by the presence of other diseases, must not be withheld. When the first violence of the attack has ceased, local applications are often advisable, such as a tepid lotion of alcohol, or spirit of rosemary, diluted with camphor mixture. Leeches are rarely useful.

"In the advanced stages of the disease other topical means may be used with great advantage; as the veratria liniment; linim. sapon. c., with liquor ammon. acet. and tincture of opium; linim. sapon. c., with linim. camphor. c., and tinctura lyttæ, &c. Finally, benefit will be derived from the daily or occasional sponging with a mixture of tepid salt water and vinegar; friction and shampooing; with bandage also, if the vessels should be so weak as to cause œdema."—(P. 42.)

The rest of the treatment, including the preventive and the dietetic, is judicious and sensible, though no attempt is made to solve the problem, why acescent wines should be so "unfriendly to the gouty patient" here, and yet produce so little gout in France. "Burgundy," says our author, "is of all wines the most certain fuel to the gout," yet the men of Burgundy drink their own wines without let or hindrance from podagra or chiragra. Perhaps the reason is, that in this country Burgundy is commonly found in close connexion with 5000*l.* or 6000*l.* a year, a well-hung chariot, and other means of indolence; while the drinkers of Dijon go a-foot. Walk and work, and you may swallow your modicum of Burgundy, or even of the less fermented and less commendable champagne, without having colchicum or veratria put down to the foot of your account, or rather to the account of your foot. We entirely agree with Dr. Scudamore that the daily and free use of carbonate of soda, as a prophylactic, must be injurious.

On the whole, this pamphlet is a pleasant chat about gout—such as an experienced physician might pour forth to a patient reclining in his over-comfortable carriage. Whether even the name of the distinguished practitioner to whom it is dedicated will keep it floating on the stream of time is another question; but though somewhat scanty for our taste, it is evidently the production of a man who has seen much of the disease which he describes.

MEDICAL GAZETTE.

Saturday, January 26, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *rtis Medicæ* tueri; potestas modo veniendi in ublicum sit, dicendi periculum non recuso."

CICERO.

QUACKERY.

DR. TICKNOR, of whose amusing "Exposition of quackery and imposture in medicine" we made mention in our last number, gives a discouraging picture of the success of charlatanism in the United States. Something must, no doubt, be allowed for the vivacity of the author's style, and something for the privilege of grumbling — the imprescriptible inheritance of every freeborn man. Under a good government all goes wrong. The British constitution has been totally ruined three times within our recollection; France has long been undone, as may be seen in almost every French newspaper; and in the United States the sovereign people are trampled upon, as they tell us, in a way that would do a despot's heart good to hear of. The fact is, that in free countries every one is at liberty, first to investigate social imperfections till each mote becomes a beam to his

eyes, and then to publish his microscopic observations; while the subject of Austria or Russia is forced to look at every thing through government spectacles, which have the property of tinging all objects with the *couleur de rose*. But after making every possible deduction for the complaints of one who is setting forth his favourite grievance, our impartiality obliges us to allow that the Doctor has made out his case, and that quackery appears to be even more rampant across the Atlantic, than in England. This latter clause, however, though clearly made out by Caleb Ticknor, is not so stated by him; on the contrary, he says that "quackery is more prevalent in Europe than on this side of the Atlantic, and that it finds an easy prey in the republicans of North America." He founds this erroneous theory on the fact, that in New York, and probably in other cities of the Union, the great majority of the quacks are of foreign origin, and write after their names, "Graduated at Edinburgh;" "having studied at Glasgow;" "recently from Paris;" "Licentiate of the Royal College at London;" "of the University at Halle;" though Dr. Ticknor thinks that many "might with more propriety be dubbed renegades from Botany Bay, or graduates of the Old Bailey."

Now, the immigration of so many tried practitioners—skilful in picking their patients' pockets, in every sense of the word—seems to us to demonstrate that quackery is more prevalent in their chosen, than in their native country. In Old England they are treated with multiplied indignities, forced to follow the gyrations of a certain odious wheel, and even sent on a long voyage in a crowded vessel; while in New England they are welcomed with open arms, until the purses, decimated by their professional skill, fall an entire prey to their manual dexterity! Suppose, to take an obvious illustration, that the gentlemen of the road, thrown out of employment by the disuse of highway robbery, were to export themselves to Rumelia, or Bulgaria, this would show the decay rather than the prevalence of their trade in the country they had deserted; and their self-recommendations of "late from Hounslow Heath," or "recently from Finchley Common," would be no proof to the contrary.

Dr. Ticknor gives a very edifying history of the rise, progress, and unbounded success of a pill-mongery. "One Mr. A., an unskilful man of business, became reduced from competence to poverty, or, what is worse, the state bordering upon poverty, where the luckless man trembles on the brink of the abyss into which he has not yet tumbled. After trying, but in vain, to regain his former position, a kind friend suggested, one day, that he might become a doctor. To this, A., who appears to have been a well-meaning but mistaken man, objected that he knew nothing of medicine. This trifling impediment was soon got over, as well as all other objections; A. obtained a prescription for some active pills, and his friend obligingly fell sick, when A., now Doctor A., was sent for, administered the remedies, and wrought a surprising cure. Mr. Sam Jones and Mr. Bill Johnson, for the moderate premium of five dollars each, became intolerably ill; "they took the medicine, were speedily cured, and certified that they had been ill many months, had been under the care of most skilful physicians, and 'given up'—and one box of Dr. A.'s pills effected a restoration to complete health." Dr. A. and his friend prospered beyond their most sanguine expectations, and in six years after beginning practice, were

worth half a million of dollars each. The pills are made by steam, and half the inhabitants of the Northern states have swallowed them.

May we not say on this occasion, *fas est et ab hoste doceri?* Does not the popularity of purgative pills, made up by any body and every body, shew the necessity of popularizing those for whose composition some one is responsible? If some brief essay on the art of preserving health should one day be published, in a style really adapted to the people, the author, after stating the objections to the long-continued use of drastic purgatives, might give forms for the composition of aperient pills, or rather mention the names and doses of t e contained in the Pharmacopœia, such as the aloetic pills, and the compound extract of colocynth; and though he might frankly confess that they were not an infallible cure for dropsy, apoplexy, consumption, scurvy, and "lowness of spirits," he might propose them as substitutes for vegetable, liver, antibilious, and other pills of that class.

Another quack hit upon a very ingenious device. He would tell his patients that some particular substance was lodged in the alimentary canal—apple-pips, for instance; or, if the patient was a sportsman, his complaints might arise from having accidentally swallowed a few shot. After taking a dose of the "big pills," the supposed cause was found to have been the real one, the peccant object being detected in the evacuations. At last a lady, on applying to him, was informed that her distemper arose from having lemon-seeds within her frame. The sceptical lady replied that she had not eaten a lemon for six years, and that therefore the supposed exciting cause was impossible. The quacksalver persisted in his theory; the pills were taken, and to the astonishment of the patient the pips were found. A second dose was taken, and more pips were ejected. "A thought now flashed upon the lady's mind. One pill was yet left, which she examined, and behold! *a lemon-seed* in its centre—the secret, truly, of the Doctor's astonishing wisdom and successful practice."

The Lobelia inflata, or Indian tobacco, a drug comparatively little used in this country, seems to be much employed by empirics in the United States, and though too powerful and too distressing in its operation to be employed as an emetic in ordinary practice, they administer it without scruple, and rush in where regular physicians fear to tread. One Samuel Thompson persisted in giving the Indian tobacco to his patient, Ezra Lovett, until he had killed him. He was indicted for murder, but as it did not appear that there was any malice in the case, he was acquitted.

The country has been overrun of late, says the author, with a race of men called steam-doctors, who cure every thing with the vapour-bath, assisted by the internal use of Cayenne pepper, and the Indian tobacco. To shew the effects of Cayenne, he relates a case which occurred in the practice of a friend of his —Dr. Gunn, of New York. He ordered a child to have a foot-bath, with the addition of a quantity of the pepper, and also to take some senna tea; but unfortunately the prescription was reversed; the Inf. Sennæ was used as a pediluvium, and the Cayenne being swallowed, terminated the life of the little patient.

He then relates a story somewhat resembling the anecdote of Mr. A. The only son of a kind father had trifled away his time, and at the age of five-and-twenty was without occupation and without energy, when he was so fortunate as to make the acquaintance of a practitioner in steam. For ten dollars

the spoiled child in one night became a full-fledged doctor, versed in all the inmost mysteries of steam, Cayenne, and lobelia. "He has bought a small duodecimo volume, containing the whole of medical science—the plan of steaming—and he sallies forth, like a knight-errant, even a veritable Don Quixote, to relieve all unhappy damsels, distressed widows, and sick children."

Another popular error, according to Dr. Ticknor, is the indiscriminate use of bran-bread, or, as we should say, brown bread. We hardly wonder at his zeal against this article of diet, if it was through this, as he supposes, that an intimate and estimable friend lost his life. Professor Averill, of Union College, had been annoyed by a bowel complaint, "which, agreeably to popular custom, he had called dyspepsia, and, in accordance with the fashion of the times, he commenced the use of bran-bread." In spite of the constant diarrhœa under which he suffered for the last six months of his life, he persisted in eating the unwholesome food, and died a martyr to his theory. It does not appear whether he relied solely on the advice of "itinerant lecturers, or dyspeptic book-makers," or whether he was encouraged in his infatuation by some practitioner of the healing art.

On another occasion we will conclude this subject.

CORONERSHIP FOR MIDDLESEX.

Mr. Wakley has started for the vacant coronership for Middlesex, to which we alluded last week. A committee sits at the Crown and Anchor in the Strand, and his friends are in a state of great bustle and activity. There are three or four other candidates, all of whom are lawyers.

GLASGOW EYE INFIRMARY.

Clinical Lecture, by Dr. Wood.

Consequences of Ophthalmia Neonatorum.

In a former lecture I directed your attention to the importance to a commencing practitioner of being well acquainted with the earliest symptoms of ophthalmia in new-born children. I detailed the usual symptoms, and modes of treatment. I shall to-day confine myself to the consequences of that disease.

During the year which terminated with our last report, there were admitted here 22 cases of the disease we speak of. Twelve were dismissed cured, the vision quite uninjured. Four had opacities of the cornea, and four became staphylomatous. In allof these eight the cornea was ulcerated or nebulous at the period of admission; and in some, indeed, the staphyloma had formed before their admission. Two are marked as being affected with central cataract. I confine myself, you will observe, to the effects which the ophthalmia, although subdued, leaves behind it, when neglected or unsuccessfully treated, and do not include those accidents which may occur during the treatment, such as ulcer, onyx, eversion of the lids, &c. The sequelæ to cases of which I request your attention, are—1, Opacities of the Cornea; 2, Synechia; 3, Staphyloma; 4, Central Cataract.

1. *Opacities.*—By far the most serious opacity of the cornea is the leucoma. It is the result, says Dr. Mackenzie, of a loss of substance in the cornea, and a partial filling up of that loss by granulation. In fact, it is a cicatrix. Albugo, again, is the result of effused lymph. It is usually superficial, and of a clear white. Nebula is a thin diffused cloudiness, undefined towards its edge, but sometimes spreading over the whole cornea. You may see daily many examples of each of these kinds of opacity. They are all to be attacked by stimulating applications. We chiefly use here—1. A solution of nitrate of silver, four grains to the ounce of water, or ten grains to the ounce, seldom stronger. 2. Vinum opii, as in the Pharmacopœia, or diluted. 3. Ointment of nitrate of silver; this is often very useful. Some object to the use of the preparations of nitrate of silver, that they tend to discolour the eye; and this is stated on authority so good, that we cannot doubt the fact; but it must be an extremely rare occurrence; and while we keep in mind its possibility, we need not be deterred from a free employment of the remedy. 4. Unguentum præcipitati rubri, of which, in the Pharmacopœia of this Infirmary, we have three strengths; that

containing twelve grains to the ounce of lard is usually employed. A great many other substances have been used; and, indeed, it is frequently of consequence to vary the applications. Should all these mentioned, however, fail after each has had a fair trial, I should very much doubt whether sugar-candy, calomel, &c. would be more successful. Some recommend blistering the nape of the neck, and scarification of the conjunctiva; these will be particularly necessary where the slightest symptom of the renewal of inflammatory action manifests itself. Parents often ask you if you can cut away the scum or pearl, as they often call the opacity, from the child's eye. Your answer here is,—No. Indeed, none but a quack would encourage such a notion. Again, you will be anxiously asked when the specks will go away? In this respect your prognosis must be very guarded as to time; and in many cases you cannot venture to promise that they will ever disappear entirely, particularly if the person has grown up before the treatment has been commenced. In children, however, by proper treatment, the nebula may always be removed in a longer or shorter period; the albugo may frequently be removed, and the leucoma ought not to be despaired of; at all events it may be much diminished. When leucomata prove obstinate, internal treatment has been found of much benefit. A gentle mercurial course, or a persevering use of iodine, is used for this purpose. When a very dense opacity occupies the cornea opposite the pupil, preventing vision, but leaving a considerable ring of clear cornea, and when the iris does not seem tagged to the pupil, but is acted upon by belladonna, you have a favourable case for artificial pupil. The details of this operation are not at present before us. I need not take up your time by quoting cases; you will find examples in every page of our journal.

2. *Synechia anterior.*—When the iris adheres to the cicatrix of the ulcer, which forms a leucoma, this state of affairs is termed synechia anterior. It is a complication of leucoma, and adds much to the evils of that affection. It is sometimes, however, removed by absorption, as the following case shews:—

Case I.—Sept. 26. No. 8039. E. D., æt. 2½ months. The left cornea presents an elevated leucoma near its centre, with adherent iris, the consequence of ophthalmia neonatorum. Part of the pupil is visible; right cornea entire.

Utat Ung. Præc. Rub. Gutta sol. Nitr. Argenti. gr. iv. et Collyr. Mur. Hydr. c. Vina Belladonnæ.

Oct. 12th.—Leucoma considerably less.

Nov. 2d.—Synechia has disappeared.

8th.—Eyes well, with the exception of a small albugo on left cornea.

Dec. 7th.—Continues to improve. Was discharged cured shortly afterwards.

Much more frequently, however, cases of this kind do not yield; and in that event, should there be a sufficient space of cornea left clear, an operation for artificial pupil is had recourse to. A very interesting case of this kind was lately operated upon by Dr. Rainy. The artificial pupil was successful, but, from the capsule of the lens being opaque, the case is not concluded; so that you may probably have an opportunity of seeing it. It is No. 8208, and deserves attention.

3. *Staphyloma.*—The nature of staphyloma was fully illustrated in a clinical lecture by Dr. Mackenzie (see Medical Gazette, Sept. 8th). I need not, therefore, dwell at length upon it. The patient whose case Dr. Mackenzie particularly refers to is still attending.

Case II.—The following is an example of a common case of staphyloma, and of the ordinary mode of treatment:—

S. S., æt. 8, August 24th. Total staphyloma of cornea and iris, the consequence of ophthalmia neonatorum. The whole eyeball is enlarged, and the sclerotica much thinned. The eye has been for some time enlarging, and the other is becoming weak. The front of the staphylomatous eye, including the whole cornea, with a part of the surrounding sclerotica, was removed in the usual way. The internal surface of the sclerotica was found to be lined by the choroid, and upon the inner surface of the cornea adhering to the iris was a small crystalline lens. The wound healed readily, and the object of the operation was attained. Practitioners who have not attended to eye diseases particularly, are apt, on seeing a case of this kind, to be alarmed lest it should be a malignant affection. I was once prevented from operating in a case exactly similar to this, by the fears of a most intelligent and experienced surgeon, lest it should be a fungoid tumor. In a few weeks, however, he saw reason to abandon his fears, and the operation was performed. Even were the appearance of the eye doubtful, which it rarely is, the history of the case can hardly mislead us.

Instances are not wanting in which merely puncturing the staphyloma has effected a cure; but we cannot in general rely upon this treatment.

Case III.—J. S., No. 7643, a child. Has ophthalmia neonatorum. The left cornea is destroyed. The ophthalmia was treated with nitras argenti, collyrium, &c. The eye became staphylomatous, and increased in size for several weeks. It was punc-

tured, and a small quantity of pus was discharged with the aqueous humour. After this the eye remained quite flat.

Case IV.—In No. 7709, you have an instance in which the staphyloma, by repeatedly bursting, rendered any operation unnecessary. It was the result of ophthalmia neonatorum, and had attained a considerable size, but bursting at regular intervals, its bulk was by this kept from inconveniently extending. I was consulted by a lady who had a staphyloma, in which was a small fistulous opening, through which the aqueous humour oozed, and thus kept the eye from protruding much. I declined removing it at the time, and afterwards learned that a violent inflammation of the eye having occurred, the ball became flat, and an artificial eye, which was the object of her desire, was applied.

4. *Central cataract.*—In two of the cases which I have mentioned, there was observed, when the ophthalmia had subsided, a white speck, about the size of the head of a small pin. It is by no means ascertained that this species of cataract is the result of the ophthalmia. We seldom have an opportunity of observing such cases before the attack of disease, and therefore cannot with certainty say that the cataract existed previously; but I believe most writers on the subject consider it to be congenital. Central cataract of this kind does not often spread. I have mentioned these chiefly with a view of drawing your attention to the subject, which is probably of more importance in physiology than it is in pathology.

ROYAL INSTITUTION.

Friday, 18th January, 1839.

Professor Faraday on the Electric Conditions of the Raia Torpedo and Gymnotus Electricus.

The meeting of members appointed for this evening was the first for the season of 1839, and a numerous cohort of the votaries of science attended, attracted by the promise of a lecture from the most elegant and accurate experimentalist of the age.

Mr. Faraday commenced by stating that these evening meetings of the members had taken place during fourteen successive seasons. Within that space of time, communications had been made from the table at which he stood, relating to almost every department of science or of art. Each member or man of science who had on these occasions addressed the Institution had been permitted the utmost freedom in the expression of his opinions, and had invariably experienced the liberality of the audience. He himself had been invariably received with the greatest indulgence, and, presuming upon that, he had frequently brought forward crude thoughts, which, by the encouragement of the members, had ultimately been ripened into legitimate theories. On the present occasion, when he was about to treat of a very abstruse subject—the connexion of electricity with the vital phenomena—he would lay claim to their indulgence in the interpretation of his language, and hope they would put the least objectionable meaning on any term he might use. He would at the outset, by way of precaution, state, that he did not pretend to analyse or explain the "immaterial principle of life"—an entity beyond the reach of the experimentalist. If he should accidentally use the term "life" in the course of his observations, he should mean merely the vital processes, the *effects* of the agency of this occult principle, and which he considered to be material in their character.

The shock or "physiological commotion" which certain fishes produced by contact in the animal frame, was known to philosophers at an early date, but these facts were considered as singular instances, until the dissections and experiments of Walsh, John Hunter, Cavendish, Dr. Priestley, and, more recently, of Sir Humphry Davy, Matucci, Linari, and Dr. John Davy, progressively developed the nature of these phenomena, and finally established the identity of animal and general electricity.

Sir Humphry Davy, a short period before his death, experimented upon the torpedo, but his experiments had a tendency to disprove any relation between the peculiar property of this animal and the electricity derived from friction, and from the Voltaic pile. In his last illness he requested his brother, Dr. John Davy, to continue his researches; and that gentleman being advantageously situated for the purpose (being appointed Inspector of Military Hospitals at Malta, in the seas adjoining which island the torpedo abounds), performed numerous experiments on this animal, and very satisfactorily shewed the identity of the active agent in the body of the torpedo with the powerful imponderable fluid which pervades inanimate nature, and exhibits its various characters in the Leyden jar, in the galvanic battery, and in the magnet. By an ingenious arrangement, Dr. Davy formed a galvanic circle with the animal. He made a wire communicate with the upper surface and another with the under surface of the electric organ of the animal, and thus succeeded in deflecting the galvanometer, in magnetizing a needle, and

in producing chemical decomposition. Matucci and Linari had pursued the subject in the track of Dr. Davy, and obtained even more important results: they produced a spark, and raised to a sensible degree the temperature of a platinum wire.

Mr. Faraday had long entertained in his mind a favourite hypothesis, that electricity was the medium through which the occult principle of vitality carried on the various processes exhibited in organized beings, and had always felt deep interest in the theories and experiments of Abernethy and Wilson Philip. He had ever imagined that what is called the nervous influence was a subtle material and imponderable fluid, analogous in some of its properties to light, heat, and electricity; and which the nerves were, by their structure, adapted to convey in the same manner as gas is conveyed in pipes, or electricity through wires. The Professor has recently experimented upon the Gymnotus electricus, now exhibited in the Adelaide Gallery of Practical Science, and the results he obtained are corroborative of the views of Matucci, Linari, and Dr. John Davy. The experiments, however, were of so delicate a nature that they could not be demonstrated to such a large assembly as that collected at the Royal Institution. Mr. Faraday therefore preferred constructing a model of the elegant and graceful animal upon which he had operated, and thus making a kind of vicarious demonstration of the electric properties of the gymnotus. This plan he had the less scruple in adopting, since several members of the institution had witnessed his experiments on the living animal.

The lecturer now performed a series of experiments with his characteristic accuracy and success, tending to illustrate the different conditions of the electric matter under different arrangements. Thus, the electricity collected by friction on the surface of a conductor, has such great tension, that it can overcome the resistance of eight inches of air, and may be induced to the knuckle of the experimenter at that distance; whereas, in the wires of a powerful galvanic apparatus, the tension is so feeble that induction cannot be effected through half an inch of atmosphere, whilst the most important chemical, thermal, and electro-magnetic effects, are obtained from it. Thus, also, the nature of the medium through which electricity of tension is conveyed modifies its effects. A battery of eighteen large Leyden jars being charged, the lecturer transmitted the charge through a circle, a part of which consisted of fine wire, and in the course of which a small pile of gunpowder was placed. In the first experiment, Mr. Faraday interposed between the battery and the circle half a yard of moistened string. The progress of the electric matter was so retarded, through the imperfect conductor, that the resulting heat ignited the gunpowder, and the wire remained uninjured. When the battery was discharged, without the intervention of the humid string, no heat was evolved, the gunpowder was not ignited, but the wire was destroyed. In this manner the attributes of the electric matter are modified by its different conditions. A striking difference between the material reservoirs of electricity which art has constructed, and the only animals as yet discovered in which the principle exists, is the different effects of water in the two cases. In the electrifying machine the slightest moisture in the atmosphere carries away the electric matter; but the torpedo, the gymnotus, and the silurus, are inhabitants of the water, and both generate and maintain, within the limits of their electric organs, large quantities of this subtle and mobile fluid. Further research will doubtless throw light upon this apparent anomaly, and bring it within the jurisdiction of some general law.

All the recent inquirers into the nature of animal electricity have experienced difficulty in demonstrating the thermal effect. Mr. Faraday explained the nature of this difficulty with great ingenuity. The electric power of these animals is developed in repeated shocks, not by a continued current, and these shocks are so transient that the heat induced is too evanescent to be detected in a glaring manner. A Voltaic battery of great intensity, when continual contact is made between its poles, occasions a visible exaltation of temperature in the intervening platinum wire; but when momentary contact only is made, no heat is produced. Hence it appears, *à fortiori*, that the thermal effect of organic electricity must be exceedingly difficult to demonstrate.

The lecturer demonstrated the anatomy of these animals on some beautifully-dissected specimens, supplied to him by Mr. Owen and Dr. Grant.

Mr. Faraday first exhibited the structure of the torpedo or electric ray, in which the electric organ is double, of the shape of a kidney, and situated on each side of the spine. Each organ consists of an aggregate of membranous columns, filled from end to end with laminæ separated from each other by a fluid. In these columns, the progress of the electricity is from the back to the belly of the animal. On the dorsal as well as the abdominal aspect of the organ, the only covering it has is the external common integument. The animal abstracted from the electric organ is of small dimension. Dr. Davy found in a fish weighing

2065 grains, that the electric organs weighed 302 grains. The nervous cords which supply the electric organs are of enormous size compared with those distributed to the essential and vital organs of the animal. These nerves are in all these animals derived from the fifth pair, and from the pneumogastric nerve, and bear a ratio of 9-10ths to the other nerves of the animal, The gymnotus electricus is described by Mr. Owen as a small animal with a long electrical apparatus. The electric organs of this animal consist o four columns, arranged parallel with the spine; two of these columns are of large calibre, and two slender. The membranous laminæ are arranged in the same manner as in the raia torpedo. The organs essential to the life of the gymnotus are placed in the neck, and do not constitute more than one-ninth of the length of the fish. The nervous cords distributed to the electric organs bear the same disproportion to the other nerves as in the torpedo. Matucci has shewn that these nerves may be divided, not only with perfect impunity, but with improvement of the vital powers of the animal. In certain species of ray in which the division of the nerves was affected, the animals sustained life longer when deprived of nutriment, than the unmutilated ray does under the same circumstances.

The bulk of the nerves supplied to these organs bears a direct ratio to the size of the organs, and the electric power is also directly as the bulk of the organ. Hence the electric power is always in a direct ratio to the nervous influence exercised by the animal. When the electric force of the animal is exhausted, there is exhaustion of his nervous energy, which is perfectly similar to the exhaustion attendant upon muscular exertion; and the electric power equally with muscular strength is regenerated by rest. "From these facts," said Mr. Faraday, "the inference is as conclusive that electricity is generated by nervous influence, as that heat is a consequence of certain conditions of the electric fluid; and as heat may reproduce electricity, why may not electricity reproduce the nervous power?" Having clearly shewn that the electric matter emanates from nervous power, the next experiment to be undertaken by physiologists should be to invert the course of the phenomena, and when the animal is exhausted and empty of electric fluid, to charge his electric organs with that matter, and thus restore the nervous power of the animal. Experiments successfully directed to this point would satisfactorily explain the mystery in which the nervous system is at present involved, by proving it to be pervaded by a peculiar and subtle matter, whose properties when developed would unfold many of the arcana of the living system."

Mr. Faraday expressed his firm conviction that the nervous influence would be found to depend on a material imponderable substance; and he concluded by quoting a passage from Priestley, in which that ingenious investigator makes a conjecture, which appears to anticipate many of the discoveries about to be elicited. Priestley conjectured that phlogiston, after being absorbed into the animal frame, is eliminated in the form of electricity, which in most animals is confined to the individual, and expended on the several vital processes; but in others, as the torpedo, silurus, and gymnotus, is transmitted from one individual to another.

A very compact electrifying machine, constructed by Mr. Palmer of Newgate Street, was exhibited in the library. Its merit consists in converting one of the pillars that supports the glass cylinder into a conductor, thus making the apparatus of smaller size, and more portable, and removing the inconvenience attendant upon a *moveable* conductor.

IDIOS.

WESTMINSTER MEDICAL SOCIETY.

January 19, 1839.

DR. CHOWNE, CHAIRMAN.

Traumatic and Idiopathic Tetanus; its Cause and Seat.—The Preparations of Colchicum.—The Use of Nostrums.

DR. GOLDING BIRD introduced to the notice of the Society a case of traumatic tetanus. The subject of the disease was a young man who had received a contused wound of the thumb. In two or three days after the receipt of the injury symptoms of tetanus began to shew themselves. The muscles of the jaw and throat were first affected; afterwards the voluntary muscles generally were attacked by spasm; and finally opisthotonos occurred. Calomel and opium were first prescribed, without any appreciable benefit. Dr. Bird ordered a strong potion of castor oil to be taken, which was followed by a very free action of the bowels. A thick ropy tenacious mucus was discharged from the rectum, resembling in character the matter which is vomited from the stomach in scirrhus of the pylorus. This mucus was of a dark brown colour, and so very viscid that it could be drawn into strings of half a yard long. No sooner was the patient well purged of this matter than the cramps

entirely disappeared; the spasms left him, and the heat of skin and other febrile symptoms subsided. He continued in this improved state for two days, when the bowels becoming constipated, the symptoms were renewed, and delirium occurred. Recourse was had to the castor oil a second time; a second time the brown viscid matter was expelled from the bowels, and the tetanic symptoms disappeared. The costiveness recurring a third time, complete opisthotonos ensued, and the patient again became delirious; but the castor oil was again effective in bringing away from the bowels the ropy mucus described, and in restoring tranquillity to the nervous system. Poultices and other soothing applications were made to the local injury. The patient was alive, but pretty free from spasm; his pulse throughout the attack had been small and quick, —150. The bowels had been watched, so that the recurrence of costiveness was prevented. The character of the stools had become natural. He had been eleven days subject to the disease; but though he enjoyed comparative comfort and immunity from the spasmodic attacks, he (Dr. B.) considered his patient very far from being out of danger; his urine had during these attacks been remarkably alkaline. He thought the case was interesting, chiefly because it indicated the superiority of treating these severe spasmodic diseases on common principles, rather than according to the empirical plans recommended by some medical writers.

Mr. Bushel thought the case just related by Dr. Bird was an instance of chronic tetanus, in which the symptoms were much less urgent than in the acute, which is usually a fatal affection. The case of Dr. Bird was remarkable, as being unattended with tonic spasm. The spasmodic contractions which had occurred were merely clonic. In such modes of tetanus purgatives were decidedly of use. He had seen some cases treated successfully at St. George's Hospital, in which purging formed a prominent feature of the treatment. He thought Dr. Bird's case had a good chance of recovering.

Mr. Winslow saw nothing new in the plan of treatment detailed by Dr. Bird. Dr. Hamilton and Mr. Abernethy had related cases successfully treated with purgatives.

Dr. Bird said he was aware that Dr. Hamilton had related *one* successful case of tetanus treated with purgatives. What he considered singular, in the case related by himself, was not merely the benefit effected by the use of the aperient remedies, but also the peculiar secretion of mucus from the surface of the large intestines, which indicated a degree of derangement in the function of that portion of the alimentary canal, which might be considered as a stimulus to the disease.

Dr. C. B. Williams thought, that in the present complete state of ignorance in which the profession was involved, as regards the seat and origin of this disease, the practitioner was quite justified who should have recourse to specific remedies, such as ammonia, musk, or opium, in combating the distressing symptoms of this malady. Pathologists had been utterly unsuccessful in their efforts at discovering any traces of this disease after death in any of the tissues. He thought, with Mr. Bushell, there was an absence of the tonic spasms in Dr. Bird's case, and that, consequently, the disease in this instance should be considered as chronic. If it had been acute tetanus, the patient would have succumbed in a day or two, as the spasm would have extended to the respiratory muscles, and killed the patient by suffocation.

In chronic tetanus death ensues from exhaustion and other causes; but the more gradual progress of the symptoms in the last form of the malady affords greater opportunity for its successful treatment. The cause of tetanus in general, he thought, might justly be considered as reflex; an irritation existing in a wound, in the alimentary canal, or in any tissue, is conducted to the nervous centre, whence it is reflected to the muscular system. He thought narcotics and sedatives would be useful in intercepting the passage of the irritative action along the incident nervous fibrils.

Mr. Streeter said he felt great distrust and considerable diffidence in suggesting to the Society that the diseases generally distinguished by the common appellation, tetanus, might be classified with advantage under several heads. The character of the spasms differed much in different cases, and might be made the basis of a useful classification, and an index of the kind of remedy to be adopted. There were cases in which purgatives might be effectual: there were others in which sedatives and antispasmodics were of use. He had known a case in which large doses of quinine had succeeded in removing the disease. In all these cases the practitioner would be guided in his treatment chiefly by his own personal experience.

Dr. James Johnson said that if Dr. Bird meant "symptoms" by "common principles," he would concur in opinion with him that that was the best mode of treating not only tetanus but all other disorders. It was now admitted that the only mode of treating diseases was accord-

ing to the leading symptoms. Formerly it was thought disgraceful in a medical man to undertake the treatment of a case unless he had some fine theory to guide his practice. But now the uselessness of all theories was acknowledged, and the haughty critics of the days of yore were reduced to treat diseases on the same level with the empiric. He (Dr. J.) acknowledged his ignorance of the *causa et sedes* of tetanus. He had seen the disease in various latitudes, and arising from discordant causes. Under all forms it was a most fatal malady. Purging he had adopted always, and he considered it indispensable. But narcotics, though injurious probably to the ultimate issue of the disease, were indispensable to alleviate the pains of the patient. With regard to the humoral pathologists, he did not know any disease in which they were less likely to establish their views than in tetanus.

This disease was produced suddenly in persons in excellent health, and where no time was allowed for the vitiation of the blood. How could vitiation of the blood exist in cases of small punctured wounds, which were the usual causes of this malady? The larger the wound was, the less likely was the occurrence of the disease. In large wounds, where extensive suppurating surfaces existed, and where absorption might occur to a great amount, tetanus never occurred.

In idiopathic tetanus, the cause was generally a momentary exposure of a small part of the heated surface of the body to a draught of cold air. In such a case no sufficient time existed for a vitiation of the fluids to occur. In icterus, in scorbutus, in purpura, there was evident vitiation of the blood, but who ever heard of tetanus supervening upon these diseases? To say that vitiation of the blood was the proximate cause of tetanus, was to shut the door against all remedy, for what constitution could hold up against this formidable malady, whilst the process of purification was being completed?

Mr. Snow thought still that a vitiation of the blood might account for tetanus. In small wounds of tendons, or of other structures, a vitiation of the fluids might take place in the injured part through the operation of the nerves, and the diseased ichor thus generated might be absorbed into the circulation, and thus deprave the whole mass of fluids.

Dr. James Johnson, after a pause in the debate, inquired if any member had tried Reynolds's specific for the gout, a secret preparation of colchicum. He had recently found it effectual in a case in which he had previously tried in vain the officinal preparations of that medicine. He had used both the seed and the root, but without effect. He thought the efficacy of Reynolds's specific was due to the care with which it was made, and probably to the influence of the therapeutical principle, that the varying the form of a medicine kept up its efficacy on the constitution of the patient.

An animated conversation now occurred on the practice of making nostrums. Mr. Streeter and Dr. Golding Bird animadverted strongly on the conduct of Mr. Battley in making a *pretended* surrender of his secret mode of making his Liquor Sedativus, and on other mysticisms which they stated he had practised on the public. The sentiments of these gentlemen were responded to by the whole Society.

IDIOS.

PHYSICAL SOCIETY, GUY'S HOSPITAL.

January 12, 1839.

DR. BABINGTON, F.R.S. IN THE CHAIR.

Connexion between Renal Disease and Disease of the Brain.

DR. ADDISON apologized to the Society for the incomplete state of the subject which he was about to bring before their notice, but, however imperfect and unfinished it might be in its details, he was satisfied of its general truth and accuracy and his statement should therefore be confined to a narration of facts which he trusted would be fully canvassed and examined, and the inferences arising from them be improved upon and perfected by future observations.

The connexion between derangements of the kidneys and disturbance of the cerebral functions was universally admitted. Sir Henry Halford, in an elegant paper read at the College of Physicians, had shewn that ischuria gives rise to severe cerebral symptoms, and had insisted that a very slight restoration of the secretion was often sufficient to relieve the system from its perilous state. It was well known to the Society, that, for years past, Dr. Bright had laboured zealously and successfully in elucidating the subject of a peculiar affection of the kidneys, characterized by the secretion of albuminous urine, and he had shewn that this state of kidneys was associated with inflammatory attacks of various parts of the body, especially of the serous membranes of the chest, abdomen, and brain.

Our present knowledge has thus clearly established a connexion between cerebral disturbance, as the result, 1st, of ischuria, and 2dly, of that affection of kidney marked by albuminous urine. Cases of renal disease, however, both acute and chronic, were (he said) more frequent than

was commonly supposed, where there was neither the ischuria of Halford nor the albuminous urine of Bright; where the ordinary symptoms of nephritis do not exist; where there is neither pain in the loins nor excited pulse, nor feverish skin, nor altered secretion; and where the only diagnostic mark appears to be "disorder of the brain."

This "disorder of the brain" was of a peculiar character, sufficiently marked in its features to admit, in many instances, of the induction of a pretty confident diagnosis; and although he would by no means say that it existed in all cases, yet when it did exist, even though unaccompanied by any other obvious symptom, he had often been enabled to pronounce a correct diagnosis. Any cause that suddenly, or in a short space of time, interferes with the secretion of the kidneys, may produce a similar result; whether from sympathy with the brain or from the circulation of something which should have been removed from the blood as urea, he would not undertake to say, though he preferred the latter explanation; and although the most frequent cause of these derangements undoubtedly was some chronic affection of the kidneys, there was another cause, which he wished to bring before the Society to night, that had not hitherto been noticed, and which he regarded to be a recent inflammatory affection of the secerning part of the kidney, as proved by congestion and softening of the part being observable on examination of many cases in the dead-house.

The cerebral symptoms above alluded to all have a certain general character, modified by particular peculiarities, according to individual circumstances. The general character of cerebral affections connected with renal disease is marked by "a pale face," "a quiet pulse," "a contracted or undilated and obedient pupil," and "the absence of paralysis." This general character, however, being somewhat modified in certain cases by circumstances attending the individual attack.

The individual forms of cerebral disorder connected with renal disease are, so far as Dr. Addison has observed, the five following:—

1. A more or less sudden attack of *quiet stupor*, which may be temporary and repeated, or permanent, ending in death.

2. A sudden attack of a *peculiar modification of coma and stertor*, which may be temporary, or end in death.

3. A sudden attack of *convulsions*, which may be temporary, or terminate in death.

4. A combination of the two latter conditions, consisting of a sudden attack of convulsions, accompanied by coma and stertor.

5. A state of dulness of intellect, sluggishness of manner, and drowsiness, often preceded by giddiness, dimness of sight, and pain in the head, proceeding either to coma alone, or to coma accompanied by convulsions, the coma presenting the peculiar character already alluded to.

With respect to the first form of cerebral disorder connected with renal disease, that of quiet stupor, it is, in its most exquisite form, probably the least frequently met with; the face is pale; the pulse quiet; the pupil natural, or at least obedient to light; and although the patient may be almost completely motionless, there is no paralysis; for on attentively watching him for some time, he will be observed slightly to move all the extremities. By agitating him, and speaking loudly, he may sometimes be partially roused for a moment, but quickly relapses into stupor, as before; or it may not be possible to rouse him at all. There is no labour of respiration, no stertor, and no convulsions. Slight degrees of it often precede and pass into the next, or second form.

The second form of cerebral affection is that of a sudden attack of coma, with stertor; or, in other words, apoplexy. It is, nevertheless, different from ordinary apoplexy; it is the serous apoplexy of authors, and presents the usual general characters of cerebral affections depending upon nephritic disease; for the face, instead of being flushed, is in almost every instance remarkably pale. The pulse, though sometimes small, and more rarely full, is quiet; the pupil generally natural, or at least obedient to light, and there is no paralysis.

When, however, the labour of respiration is very great, the general character is somewhat modified by an accelerated pulse, and occasionally by a slight flush of the countenance. The coma is for the most part complete, so that the patient cannot be roused to intelligence for a single moment. The form of stertor is very remarkable, and in a great measure characteristic of cerebral disorder connected with renal disease. It has not by any means, in general, the deep rough guttural sound of ordinary apoplexy; it is not very unfrequently more or less guttural, but much more commonly the stertor presents more of a hissing character, as if produced by the air, both in inspiration and in expiration, striking against the hard palate, or even against the lips of the patient, rather than against the velum and throat, as in ordinary apoplectic stertor: the act of respiration, too, is usually much more hurried than is observed in the coma of ordinary apoplexy. The peculiar stertor, coupled with the

pale face, has in more instances than one enabled Dr. Addison to pronounce the disease to be renal, without asking a single question, and in cases, too, in which no nephritic disease had ever been suspected.

The third form of cerebral disorder connected with renal disease, is that of a sudden attack of convulsions. In this case, also, the countenance is, for the most part, remarkably pale, although occasionally slightly flushed at intervals; the pupil is often but little affected. In slight attacks of the kind the pulse is sometimes singularly quiet; but when the convulsions are severe, especially when there is such a degree of coma as to be attended with stertor, the heart often sympathizes, and the pulse becomes rapid, irregular, and jerking. This form of cerebral disease often passes into the fourth variety, or the cerebral affection shall take on the form of the fourth variety from the commencement; in the latter case we have merely a combination of the second and third varieties; the coma, hurried breathing, stertor, and convulsions, being so blended together as often to have led to a dispute whether the disease ought to be designated apoplexy or epilepsy. But from what has been already stated, it may in general be easily recognised as one of the common forms of cerebral disorder connected with renal disease.

The fifth variety is that in which the cerebral disorder comes on in a more gradual and insidious manner, usually commencing with dulness of intellect, sluggishness of manner, and drowsiness, gradually proceeding to coma and stertor, with or without convulsions; these states being, at the same time, distinguished by the usual general peculiarities already pointed out. This form of cerebral disorder appears to be that which most commonly supervenes in the progress of the morbid change of kidney so well and fully illustrated by Dr. Bright, and is then very usually preceded by giddiness, dimness of sight, and pain in the head."

The discussion which arose upon these remarks was principally of an explanatory nature, and afforded Dr. Addison the opportunity of illustrating his views, by reference to several instances where he had been enabled to pronounce a correct diagnosis, founded entirely upon the peculiar character of the cerebral derangement. He did not mean to say that every case of renal disorder was accompanied by these characteristics of head affection: nor that other symptoms, whether local or constitutional, did not frequently co-exist, so as at once to point out the seat of disease; but he was sure that in many cases local and constitutional symptoms of renal disease were either totally absent, or so completely swallowed up in the cerebral affection as to be inappreciable for practical purposes. In these cases the only means of recognising the disease was in the peculiar character of the cerebral symptoms.

The Doctor took occasion also to add, that his observations to-night were intended to be confined to the general principle and ordinary progress of the cerebral phenomena connected with renal lesions. Exceptions no doubt existed, but he had deemed it advisable not to complicate the subject by a needless enumeration of these. Of the general principle he was completely satisfied, the details were open for discussion, and he would leave them to be canvassed and improved upon by the observation of others.

Several gentlemen in the Society also related cases which appeared to justify the views advocated by Dr. Addison. It was the universal feeling of those who addressed the Society, that the subject had been presented to them in a novel and important light, and well calculated to enlarge our acquaintance with a class of affections which was still involved in much obscurity.

At the close of the discussion, Mr. Greenwood and Mr. Henry proposed a vote of thanks to Dr. Addison, which was unanimously accorded to him, and the meeting adjourned to January 26, when Dr. Hughes will read an Essay on "Fibrous Concretions in the Heart." Mr. Bransby Cooper will take the chair.

NEGLECT OF CORONERS' DUTY.

To the Editor of the Medical Gazette.

Sir,

In the present day officers receiving public money are expected to fulfil the duties attached to their office efficiently, otherwise there are many persons of ability desirous to obtain place who would do so. The office of coroner, ancient in itself, and instituted by our ancestors for the good and benefit of the subject, in the lapse of time has lost much of its utility, and coroners seem to have become irresponsible and careless as to public opinion, and think little of the public good when called on to perform the duties of their office in a country town. The proceedings at an inquest often resemble a farce, and persons summoned as jurymen are generally of the lowest order.

The following account contains an in-

stance of the manner in which medical men are treated by coroners.—I am, sir,

Your obedient servant,
WM. TAYLOR TYSON,
M.R.C.S.L.

Beccles, Jan. 19, 1839.

On Sunday, Jan. 6, 9 A.M., my instant attendance was requested by William Almond, to visit a young woman (his daughter), whom he said was pregnant, and soon after coming down stairs had fainted. I attended immediately, and found her supported by her mother; the jaws expanded; lips bloodless; countenance deadly pale; the artery could be felt at the wrist, though scarcely three minutes elapsed ere it ceased to pulsate. No hæmorrhage had taken place externally; she had fainted on the previous day, when urine and fæces passed from her involuntarily; she was not married; said to be a close kind of girl, and had been in a low way for some time past. The mother could not say how far her daughter was advanced in pregnancy, though she appeared a considerable size. The women present were unwilling to believe her dead, and in consequence the means likely to be of service were had recourse to; they proved useless. The friends still thinking life had not departed, I judged it proper under the circumstances to send for an older and more experienced practitioner than myself: and accordingly Mr. Crowfoot came, and confirmed the opinion as to life being extinct.

From inquiries made of the mother and others, nothing could be elicited that in any way led to a knowledge of the cause of death: its sudden occurrence without any assignable cause, the young person being single and pregnant, her having been in ill health without any medical advice, with other circumstances, induced Mr. Crowfoot to suggest that an inquiry as to the cause of death should take place under the direction of the coroner.

On Tuesday, January 8th, I was requested by the constable to be at the King's Head Inn, to give evidence, as a jury was summoned, and the coroner was to be there by eight o'clock P.M. About nine o'clock I was sent for by the coroner, and I stated that, without an examination of the body, the cause of death would probably for ever remain unknown. Nevertheless, the jury, after viewing the body, did, by the direction of the coroner, return the verdict, "Died by the Visitation of God."

On Friday, Jan. 11th (three hours only before the corpse was to have been buried,) I obtained permission to open the body. Mr. Wm. Crowfoot kindly assisted me during the examination.

Over the upper part of the chest, neck, and shoulders, the skin was of a dark greenish appearance.

Thorax.—Lungs healthy; about half a pint of red-coloured fluid in the right pleural cavity; the heart rather large and flaccid; about three drachms of red-coloured fluid in pericardium.

Abdomen.—The uterus and its contents healthy; and she appeared to be between seven and eight months gone with child; the serous membrane covering the intestines not at all inflamed. The stomach contained about 3 ounces of a thick fluid; the mucous membrane was inflamed, and thrown into large rugous folds; there were numerous and large deep red patches of extravasated blood, apparently beneath the mucous membrane; the pyloric extremity, with a portion of duodenum, not at all inflamed.

Time would not allow us to proceed further with the examination. The stomach and its contents we were allowed to take away; and it is intended that they shall be sent to a practical chemist to analyse.

Mr. Crowfoot and Mr. Davy having examined the bodies of several who have died from the effects of metallic poison, are of decided opinion that the appearances presented by the stomach were produced by some acrid substance.

The coroner (Mr. Grosse, of Ipswich) did not arrive at Beccles till after eight o'clock; and about ten o'clock (when most people in the country think of going to bed) the jury (some of whom appeared extremely anxious to get home) viewed the body. The coroner, desirous to leave Beccles by the coach early the next morning, did not think it necessary that the body should be opened (as he would have been detained here the next day,) but insinuated to the jury that debility and dropsy (from the ankles and legs having swollen) might account for the sudden death: he refused, also, the usual fee, as he stated that he could not, on his own responsibility, give one; but that he would recommend the magistrates to allow him to send me one.

ROYAL COLLEGE OF PHYSICIANS, LONDON.

To the Editor of the Medical Gazette.

SIR,

IN the present day there seems to be a disposition to do away with all that ex-

clusiveness and monopoly which has for three centuries and upwards characterized the Royal College of Physicians, and a spirit of liberality more compatible with the present enlightened age, developing itself in that ancient and highly respectable community, which, if carried to its proper extent, will have the most direct tendency to correct those abuses of the medical profession which it is so much the fashion to write about. All the general practitioners who have been following their professional duties for twenty or thirty years, and have consequently been accumulating practical information during that time, will concur in offering their meed of approbation to the Royal College of Physicians, for opening a door to them for advancement, and thus making room for the junior members, as well as encouraging them to toil and labour, with the prospect at some future time of taking the higher walks of the profession. There is one great difficulty presents itself—which is, that gentlemen who have toiled and laboured for twenty years in what may be considered as the mechanical part of the profession, cannot be expected to be familiar with the classics, or willing to submit to a Latin examination, with the chance of being rejected, but who are fully qualified in every other respect to fulfil the duties of physicians. In the profession of the law certain persons are frequently selected to fill higher stations of life, which not only makes room for the junior members, but acts as a great stimulus and encouragement to all.

Would it not be desirable for the Royal College of Physicians to seize the present opportunity of holding out the hope and encouragement to general practitioners, that after twenty years of arduous fatigue and toil, they would be willing to grant their diploma to such as could produce satisfactory proofs of having been practising legally and honourably for twenty years, of having an unblemished moral character, of possessing property sufficient to enable them to maintain a respectable standing in society, and a recommendation signed by six or more physicians who have been most frequently in consultation with them, stating their belief as to their qualification and talents, and their personal knowledge of them: would it not be desirable thus to furnish London with a good supply of experienced physicians from the ranks of the profession generally, and thus encourage the general practitioner to look forward to the possession of his diploma as the result of his own exertions, good conduct, and success in the profession? If you think these remarks worthy of a place in your highly respectable journal, you will confer a favour on one of your earliest subscribers. MEDICUS.

Bishopsgate Street, Jan. 14, 1839.

To the Editor of the Medical Gazette.

SIR,

IN the new regulations of the Royal College of Physicians, I find a form of the diploma hereafter to be granted to the successful candidates. I find by it, that the fullest power of practising, teaching, &c. is granted to the holder of it. Will you oblige me by stating in your next number, whether the license hitherto granted is exactly the same as the one printed in the regulations?

I am, sir,

Your obedient servant,

M. D.

January 4, 1839.

[The form of diploma now granted is essentially different from the old one. We shall refer to the points of difference in a future number.—ED. GAZ.]

DANGER OF USING BASE METAL.

IN the night of the 29th June, Madame C. was awoke by intense headache, soon followed by nausea and copious vomitings, which she tried to quell, as well as the extreme thirst she suffered under, by a large quantity of sugar and water.

When Dr. Tesseraud saw her in the morning she was very low, with a small pulse; there had been no vomiting for an hour, but she began to feel the pains of colic. When inquiry was made as to the probable cause of this indisposition, Madame C. answered that she had eaten eels the last two days; and though they had not made her feel uncomfortable the first day, she attributed her illness to having eaten some the previous evening. The eels had been cooked with butter and vinegar in an earthenware vessel. Dr. Tesseraud, on asking to see it, found in it a metal spoon, discoloured here and there with greenish spots resembling those which are found on badly-tinned copper vessels.

Mucilaginous drinks and emollient clysters were prescribed; the colic gave way when the bowels were opened; and with this treatment, and a milk diet, the patient was cured in five days.

Although the verdigris upon the spoon was easily recognised by merely looking at it, Dr. Tesseraud took it away with him, and after placing it in water for twelve hours, threw a needle into the water, which became reddened in twenty-four hours. He then carried the concen-

trated fluid to Dr. Galtier, private professor of toxicology. The yellow cyanuret of potash and iron produced a chocolate-coloured precipitate in twenty-four hours; and the matter which was upon the spoon, on being calcined and treated with nitric acid, gave a similar precipitate with the same test.

After having the spoon as white as at first, he placed it in a hot mixture of crumb of bread, butter, and vinegar. Half an hour after the mixture had cooled, some greenish spots were perceived; but in twelve hours the spoon was quite green, and so was the butter that touched it. The spoon could no longer be restored to its original appearance, and the copper was laid bare in several places. Hence we may infer three things:—

1. The green points consisted of a salt of copper.

2. The symptoms observed in Madame C.'s case were evidently owing to the poison.

3. *Maillechort* (base metal), instead of being a good substitute for silver, as its inventor asserts, ought to be banished from common use, from the dangerous symptoms which it may cause. — *Gazette des Hôpitaux*, Aug. 2, 1838.

[We are not quite sure what kind of base metal this *maillechort* may be; but it would seem from the history of the case to be copper badly plated. Since writing the above we have been informed, on good authority, that *maillechort* means *German silver*. —Translator.]

BOOKS RECEIVED FOR REVIEW.

Illustrations of Osteology. By Theodore S. G. Boisragon, M.D. Cheltenham. Imperial folio. London, Highley, 1839.

The Quarantine Laws, their Abuses, and Inconsistencies. By Arthur T. Holroyd, Esq. London, Simpkin, & Co. 1839.

COLLEGE OF SURGEONS

GENTLEMEN WHO HAVE RECEIVED THEIR DIPLOMAS.

December, 1838.

A. Moubray, Ballantra.—E. Dearlove, Harrowgate.—S. S. Forte, Barbadoes.—J. G. D. C. Denham, Calcutta.—J. Birks, the Hagg, Derbyshire.—R. Davis, Cavan.—S. Rosewall, Penzance.—J. Aston, Brigg.—T. H. Sharples, Islington.—E. Boulger, Reading, Berkshire.—J. Hatton, Newland.—N. J. Bisson, Guernsey.—F. Wardroper, Arundel.—H. Harding, Taunton.—F. F. Trenchard, Taunton.—M. Redman, Louth.—T. Denvir, Newry.—G. Gaskoin, Knightsbridge.—W. Purrier Clifton.—J. T. Waller, Bourn, Lincolnshire.—W. W. Cooper, London.—T. W. Ward, London.—G. Weekes, Hurstperpoint.—Hugh Mellor, Sheffield.—J. D. Hewett, Hilton, Hants.—F. N. Filch, Hedingham.—D. Dugdale, Blackburn.—H. Gardiner, Worcester.—P. G. Price, Margate.—Clement M. Harris, Dursley.—W. G. L. Staunton, Ireland.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, January 17.

Henry Pawle Ree, Ware, Herts.—John Holt Elkes Stubbs, Broughton, Lancashire.—Frederick Archer, London.—Nottingham Fowler, Hull.—Lancelot Hare.—Nowell Stowers.—Erasmus Welby, Farndon, near Newark, Notts.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Jan.* 22, 1839.

Abscess	2	Hooping Cough	6
Age and Debility	39	Inflammation	10
Apoplexy	2	Bowels & Stomach	1
Asthma	6	Brain	2
Childbirth	1	Lungs and Pleura	14
Consumption	25	Liver, diseased	1
Convulsions	15	Measles	9
Croup	1	Miscarriage	1
Dropsy	5	Mortification	1
Dropsy in the Brain	4	Paralysis	3
Dropsy in the Chest	1	Rheumatism	2
Fever	8	Small-pox	9
Fever, Scarlet	7	Unknown Causes	48
Fever, Typhus	4		
Heart, diseased	3	Casualties	4

Decrease of Burials, as compared with the preceding week 56

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

Jan. 1839.	Thermometer		Barometer.	
Thursday . 10	from 22	to 40	30·08	to 30·12
Friday . . 11	35	50	30·07	29·99
Saturday . 12	44	50	30·04	30·15
Sunday . . 13	33	53	29·97	29·90
Monday . . 14	38	45	29·91	29 71
Tuesday . . 15	32	42	29·74	29·81
Wednesday 16	27	36	29·85	Stat.

Winds, S.W. and N.W.

Except the 11th, 13th, and following day, generally clear, rain on the 11th and 14th. A little snow fell on the 16th.

A fine Aurora Borealis, with coruscations from about half-past 7 to half-past 8 on the evening of Monday, the 14th.

Rain fallen, ·1375 of an inch.

January.				
Thursday . 17	from 25	to 37	29·88	to 30·00
Friday. . . 18	23	35	30·04	30·01
Saturday . 19	27	45	29·56	29 72
Sunday . . 20	28	45	29·89	29·78
Monday . . 21	40	53	29·59	29·78
Tuesday . . 22	29	40	29·95	30·25
Wednesday 23	30	41	30·39	30·46

Winds, N.W. and S.W.

Except the 17th, 18th, and 22d, generally cloudy; rain on the morning of the 19th and two following days; a little snow fell on the evening of the 22d.

An Aurora Borealis, very bright, with coruscations, extending from N. to N.W., from about 8 to 10 on the evening of the 19th.

Rain fallen, ·45 of an inch.

Charles Henry Adams.

Wilson & Son, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, FEBRUARY 2, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

On the Chemical Constituents of thr Urine, and the modes of demonstrating them.

Sugar is a principle met with in certain morbid conditions of the urine. This is a very important principle to recognise, as its existence indicates a most formidable disease, and which hitherto has proved wholly intractable. Various means of detecting sugar have been resorted to; and if the saccharine principle be abundant, the sweetish taste of such urine will be sufficient evidence of its existence.

We may consider sugar, in relation to its generation or production, as of three distinct sources; as for example—of vegetable, of animal, and of chemical origin. Sugar, of vegetable origin, is derived principally from the sugar cane, Arundo saccharifera, a plant growing abundantly, and extensively cultivated in the East and West Indies. It would be out of place here to enter into a history of the cultivation and baking of sugar. But it will be necessary to take such a review as will enable us to understand the principal properties of this principle.

Cane juice contains sugar intermixed with a number of other principles; the composition is stated to be as follows:—

Water.
Acetate of lime.
Acetate of potass.
Malate of lime, with excess of malic acid.
Sulphate of lime.
Acetic acid.
Malic acid.
Vegetable mucilage.
Gluten.
Albumen.
Sugar.
Gum.
Green fecula.
Lignin.

The object, therefore, in the making of sugar is to separate this from the impurities. The juice, as above, is expressed from the cane by passing it through a mill. The juice, as thus expressed, immediately ferments, unless the process be prevented or neutralized by the addition of quick lime, in the proportion of about one part to fifteen or sixteen hundred of juice. It is then passed through a number of boilers in succession, to concentrate it. The syrup is now boiled until it granulate to what is termed *proof*. It is next placed in coolers, that the crystals may separate from the treacle or molasses. These crystals are what is imported into this country as *raw* or Muscovado sugar; here you see a sample of both the treacle and *raw* crystallized sugar. It is from this latter that the refined or loaf sugar is prepared in this country. The following is the process:—

Lime-water is well mixed by agitation with bullock's blood, with which the *pans*, as they are called, are charged. The sugar is then added, and left to stand for one night to dissolve. The lime-water renders the treacle more soluble, and thus facilitates its separation from the purer crystallized sugar. In the morning, fires are lighted under the pans, and the albumen of the blood coagulating rises, and carrying the impurities with it, floats upon the surface. The scum, as it forms, is removed from the surface by skimmers.

The fluid is kept simmering, and repeatedly skimmed, until it appears, when taken in a metallic spoon, perfectly transparent. About five hours are spent in this part of the process, and the sole object is to remove the impurities. It does not contribute to the whiteness; but, on the contrary, this is often impaired by the action of the fires, the elevated temperature to which the sugar is necessarily exposed rendering it more coloured. The whiteness is effected by digesting with animal charcoal, which, as no doubt you already know, has the property of absorbing and retaining the colouring matter of vegetable and animal principles in solution, and also certain metallic oxides and salts, as, for example, arsenical compounds. In some of the larger refining establishments the solution of sugar is filtered through beds or layers of animal charcoal, and when perfectly clear and colourless run off into a large cistern.

It is next put into pans of small size, in which the syrup is made to boil very rapidly, till it is capable of being drawn out in threads; and this is the more important point of the process, for at this particular moment the boiling should be stopped; for if it be carried farther the molasses becomes again inseparably mixed up with the sugar; and if the boiling be not carried fully to this extent a great portion of the sugar runs off with the molasses in the future part of the process, and is thus lost. This exact period is to be known only by practice and experience, and then the fires are damped, and the boiling solution transferred to coolers. Here it is beaten or agitated with wooden spatulas or oars, till it granulates, and can be no longer drawn into threads. It is upon the due performance of this agitation in the coolers that the fineness and whiteness of refined sugar depends. The object is to break the crystals as they form, and convert the whole into a granular mass, by which means the coloured liquid or saccharine part is allowed to run off, but which would be retained if the sugar were allowed to concrete in large crystalline masses, and of course would impart its colour to them. In these specimens you see examples of the raw or Muscovado sugar, of the treacle, and also of sugar in the various stages of refining, from syrup to the purest crystals.

The granular state, which we have just noticed, a specimen of which you see in this example, facilitates an after-part of the process, the percolation of water through the sugar when in loaves, by which means any adhering molasses is washed away from the minutely-divided crystals. If we compare, what is named *sugar-candy*, and of which I here present a specimen, with a piece of the fully-refined sugar, and contrast their different appearances and modes of preparation, there will be little doubt as to the theory of whitening. You observe sugar-candy, though transparent, is yet deeply coloured. Now sugar-candy and refined sugar are subjected both to the same process, up to the *transfer* to the *coolers*. But the candy, instead of being agitated in coolers like the refined sugar, is poured into pots, having threads across them, and to which the crystals attach themselves; and hence it is that you always find the crystals of sugar-candy transfixed in some part of their substance by threads or small cords. The pots are placed in stoves, and the liquid must not be disturbed, as the size and beauty of the crystals depend upon their absolutely perfect quiescence while forming. Five or six days, with a temperature of about 95° Fah. is necessary. They are then washed with lime-water, which frees the outside from any adhering molasses; but the crystal is coloured internally, in proportion to the quantity of molasses pervading the internal structure of the crystal. The purer and whiter the syrup from which it is formed, the purer and whiter the candy; and inversely. Hence it is obvious that candy can never be whiter than the sugar from which it is derived. Here you see a specimen of highly-coloured candy, and here you see a specimen of beautifully white and transparent crystals of sugar, prepared from a portion by means which by this time must be sufficiently obvious to preclude the necessity of further explanation.

The granular sugar is poured into conical moulds, usually constructed of earth. These moulds generally have been previously soaked for twelve or fourteen hours in water. In the moulds it is stirred with sticks, to free it from air, the bubbles of which would adhere to the sugar and moulds, and render the outside of the loaf rough and uneven. When sufficiently cold, the shapes with their contents are removed to the upper floor of the bakery, and the paper stops being removed from the apices of the cones, they are placed in an inverted position—that is, the apices downwards and the bases upwards, upon earthen pots. The first portions of molasses speedily runs down and passes out through the perforation in the apex of the cone, and leaves the sugar much whitened. This spontaneous separation of the molasses is favoured by a sufficiently elevated temperature. When the spontaneous purification has ceased, pipe-clay, mixed with water to the consistence of a cream, is placed in cakes of about one inch in thickness upon the bases or upper ends of the cones. The water, gradually and slowly

oozing from the cakes, passes through the solid sugar, and washes away all tinging of molasses, and runs down into the earthen pots: hence the name of "*clayed sugars.*" But the only use of the clay is to prevent the too rapid passage of the water, by which too much of the sugar would be dissolved and carried off with the impurities. The process of *claying* is repeated as often as may be found necessary, which depends upon the nature of the sugar and the degree of boiling; the loaves thus freed from all colouring are allowed to remain some time for the water to drain off. They are then placed upright—that is, with their bases downwards and their apices upwards; by which all remains of the water, flowing downwards from the apices towards the bases, is equally diffused throughout the whole substance of the loaves. They are then placed in warm stoves, and thoroughly dried in a temperature of from 90° to 100° Fah. Here you see the apex and the base of the loaf thus purified. You see the circumference smooth, from the smoothness of the earthen cone; the base rough and uneven, from the pipe-clay cake, although often it is tolerably smooth; and you observe the apex is perforated or hollow in the centre for a certain length, where the paper plug which stopped the cone was inserted, and subsequently withdrawn. You observe, too, the outside surface, though smooth, is yet crystalline, shining, and sparkling.

Sugar thus prepared is a white, brittle, sparkling, crystalline mass. Its taste is sweet, and very agreeable. Its specific gravity is 1·5. In the solid form it exists as a sort of opaque crystalline mass, but by cautious crystallization it may be obtained in beautiful large transparent crystals, such as you see here. It is soluble in its own weight of cold water; but boiling water dissolves it in much larger quantity. The solutions of sugar in water are named *syrups*. They are viscid, and the sugar separates from simple syrup, in irregularly terminated, four and six-sided prisms, the forms of which you may see through the microscope. According to Berzelius these crystals consist of 100 of sugar with 5·6 of water.

Sugar is soluble in alcohol, though much less so than in water: when, of the specific gravity ·830, alcohol takes up about one-fourth its weight of white and pure sugar; but what is termed absolute alcohol does not dissolve above 1-80th of its weight, even at its boiling point; and, on cooling, the sugar is deposited in small crystals, as you may witness in the process I am about to institute. The sugar, held in solution in concentrated syrup, may be separated by the action of strong alcohol. Thus in this glass capsule I place some syrup; and I now add to it some very strong alcohol: and you observe crystallization has commenced, and small brilliant crystals of sugar separate. These you may see more conspicuously when we have placed the capsule in the field of the microscope*.

Pure sugar does not suffer any obvious change from exposure to the atmosphere, unless the air be highly charged with moisture, when it becomes somewhat soft and crumbly, owing to commencing deliquescence.

Syrups are concentrated solutions of sugar, either in water or in vegetable infusions. The proportions of sugar to the water is usually two parts of the former to one of the latter. The solution is effected by the application of a gentle heat. It is of importance not only to adjust the proportions, but also to regulate the temperature of the place in which they are kept. If the solution be too concentrated, it will crystallize and become hard; if it be too dilute, fermentation with the production of acetic acid is apt to ensue. Fermentation is promoted by a warm atmosphere; hence the College directs syrups to be preserved in a cool place, the temperature of which shall not exceed 55° Fah.

Sugar acts upon, and is in turn affected by, many of the salifiable bases. Thus it renders the alkaline earths—for instance, lime, baryta, &c.—more soluble in water. It also acts upon some of the metallic oxides. Thus syrup dissolves hydrated oxide of copper, as also the carbonate and diacetate of the same metal, and forms coloured (blue or green) solutions. The alkalies do not throw down the metal from these solutions; but if I pass through a current of hydrosulphuric acid gas, or add a solution of ferrocyanide of potassium, the copper is precipitated, as you observe. But, on the other hand, many of the salts of copper are reduced by sugar, and the metal precipitated as a suboxide; and hence Orfila was led to propose sugar or syrup as an antidote to cupreous poisons; a proposal which, however, he subsequently corrected, when he found that sugar would not decompose the poison except its temperature were elevated to the boiling point.

Sugar appears to combine with oxide of lead. Thus if oxide of lead be digested in a solution of sugar, a yellow liquid is obtained, which has an alkaline reaction, and, on evaporation, a tough, viscid mass remains, which is deliquescent. You may

* The alcohol probably acts by its superior affinity for the water, combining with it to the exclusion of the sugar, which last, thus deprived of its solvent menstruum, separates, sometimes as an irregular mass, sometimes in crystals.

observe it in this specimen. When, however, the solution is boiled with the oxide, and this latter in slight excess, and then filtered while hot, it deposits after some time flakes which are tasteless and insoluble. They may be dried *in vacuo*, without decomposition. These flakes are, however, soluble in the acids; and if they be suspended in water, and a current of carbonic acid gas passed through the mixture, the lead precipitates as a carbonate, and the sugar is evolved unaltered. In this precipitating jar you see some of these flakes, and, on tasting, you perceive the water has not a sweetish taste; but on passing through carbonic acid, carbonate of lead, as you see, precipitates, and the fluid, as you may perceive, is sensibly saccharine now that the carbonic acid has been expelled. By taking the specific gravity also of the fluid before and after the action of the carbonic acid, we should find a difference in the density, which indicates the solution of some substance of higher sp. gr. than water. But we shall demonstrate the sugar by setting aside a portion to crystallize. Berzelius considers the compound which we have just decomposed as consisting of one atom of sugar combined with two atoms of oxide of lead; and hence it has been named a saccharate or saccharide of lead.

Sugar undergoes no other change at 212° than the loss of some water; at 300° it begins to fuse, parts with more water, and becomes brown; if the temperature be still further elevated, a new arrangement of its elements takes place. Dr. Prout having exposed sugar for seven or eight hours to a temperature of 300°, found that it lost only 6 per cent. of its weight, but the constitution and properties of the sugar were permanently injured.

Analysis shews the composition of sugar to be oxygen, hydrogen, and carbon; and the oxygen and hydrogen, as in gum, are to each other in the relative proportions to form water. The weight of the proximate equivalent of sugar has been deduced from the composition of the insoluble saccharate of lead, already mentioned. Thus if it be considered as compounded of one atom of sugar and two atoms of oxide of lead, 162 would express the equivalent of anhydrous sugar, and its ultimate composition would be as follows:—

	Atoms.			
Carbon	12 =	6 × 12 = 72	}	
Hydrogen	10 =	1 × 10 = 10	}	= 162
Oxygen	10 =	8 × 10 = 80	}	

Therefore 162 represents the atom of anhydrous sugar; but the crystallized sugar dried at 212° contains an atom of water, and if we add 9, the equivalent of water, to 162, we get 171 as the equivalent of crystallized sugar; consequently the ultimate constituents would be—

C	12	=	72	}
H	11	=	11	} = 171
O	11	=	88	}

It has been already stated that oxygen and hydrogen in relation to each other in sugar, are in the proportions to form water: hence, that sugar may be represented as C + H, or as one of carbon and one of water, and consequently as 6 + 9 = 15. And it will be necessary to recollect this, as we shall have occasion to revert to it in explanation of a future object. We now come to the question of determining the presence of sugar in the urine, and various methods have been proposed for effecting this purpose. But it should be observed that sugar is afforded from several organic substances besides the Arundo saccharifera; for instance, beet, maple, potatoe, and from various juicy fruits, and especially grapes. The sugars from these different sources vary somewhat in their properties; for instance, the sugar of grapes is less crystallizable than that from cane, and diabetic sugar more closely resembles the sugar of grapes in this particular; for, instead of crystallizing, it is more disposed to granulate.

The methods of separating sugar from diabetic urine are the following:—A portion of the urine is evaporated to dryness, and left to evaporate till it becomes a perfectly hard extract. This extract is treated with cold alcohol, which dissolves the urea and colouring matter. It is afterwards boiled in alcohol, and the hot solution filtered; and on evaporation deposits the sugar in the granulated form. In this specimen you see an example of the sugar separated from a portion of the urine passed some time since by a patient, a specimen of whose urine I now hand round. The sugar obtained by this process is not quite so clear, and is rather moister than some other specimens, owing no doubt to certain impurities from which this process is unable to free it. Add to which, this process is tedious, and requires a long time for its accomplishment.

Another method consists in adding acetate or nitrate of lead in excess to urine: the lead precipitates phosphoric, sulphuric acids, and to a certain extent the chlorine, lithic acid, &c., and most of the colouring matter. This you may see by adding the metallic solution to some of the urine and filtering,—and you observe it passes through transparent, colourless, and limpid. The filtered portion is next freed from lead by a current of hydrosulphuric acid gas, which precipitates the lead, and leaves a tolerably pure solution of the sugar. Some, at this stage of the process,

proceed to fermentation, and the formation of alcohol, which we shall consider presently. But this is not only a doubtful but inefficient indication. 1. Sugar is so easily generated by the chemical reagencies of organic principles, that it may remain a doubt whether the sugar converted into alcohol may not have been factitious, rather than pre-existent. Further, such an impregnation of sugar is required as would render any process of this sort for its detection wholly superfluous, as the taste of the urine will be distinctly saccharine; and the object of a chemical process can only be to ascertain positively what cannot be determined by any other evidence or mode of investigation. Therefore after the passing of hydrosulphuric gas, the filtered urine should be evaporated; the dry residue treated with cold alcohol, and then boiled with alcohol diluted with distilled water till the sp. gr. is raised to ·85 or ·90. This will dissolve the sugar, and, if evaporated slowly, will give granular masses, such as you here see*. If required very pure, repeated solutions and crystallizations from stronger alcohol are required.

The plan which I have been most in the habit of adopting is the following, and which we shall exemplify here. To practise it upon the diabetic urine here presented would be superfluous. We shall therefore reduce a portion of it by the addition of common urine to the state of doubt. Here is half a pint—ten ounces, and I shall divide them into two portions: to one I add half an ounce of diabetic urine; to the other half an ounce of the original—and both specimens measure exactly each $5\frac{1}{2}$ oz. You see their sensible characters—as for instance, the smell, taste, colour, are so precisely similar that they cannot be distinguished, and the *ouro-baro-meter*†, indicates no sensible difference in the gravities. We add to each an excess of hydrated caustic lime. This precipitates a great proportion of the earthy and alkaline salts—the acids as well as the bases; we filter, and next pass through a current of carbonic acid, which precipitates the lime that was in excess. We now mix with well purified animal charcoal, and digest with a gentle heat; and on filtering, you see a limpid, clear, colourless fluid passes through. This is to be slowly evaporated, and then treated with cold alcohol, and subsequently with boiling alcohol, which is to be filtered and evaporated; and the sugar is to be purified, if required of great purity, by repeated solution and crystallization. Here is some prepared as above stated; and we shall be able to compare the results of the process on the two portions of urine now in operation at a future period.

I have here a concentrated solution of sugar obtained as above from this diabetic urine, and by adding some highly concentrated—absolute alcohol—it causes the sugar, as you see, to separate; and this on being dried will assume the granular appearance. In order that you may see the difference more clearly and distinctly, I shall place some crystals of cane sugar, and some diabetic sugar, in juxta-position, in the field of this microscope; and you see the cane sugar is much more crystalline. Diabetic sugar, however, by great care, and by cautious and slow evaporation, may, as you see from this specimen, be crystallized, and forms very beautiful crystals.

Diabetic urine, in consequence of the sugar which it contains, will sometimes undergo even vinous fermentation. The vinous fermentation consists in the conversion of sugar into alcohol; and it is from the sugar with which grape juice is loaded that the alcohol in wine is generated. You have an opportunity of seeing fermentation, and a part of the produce, in this apparatus. This flask contains a solution of sugar, to which a little yeast was added to excite fermentation: for *pure* sugar will not ferment, and when syrup ferments, it is in consequence of some impurity, as mucilage, gluten, or some other impurity containing fermentable matter. The solution, on being put in a warm place, an intestinal motion commences, and which you may here witness, and bubbles of gas pass over. Some of this gas has been passed into the jars standing on the shelf of the pneumatic trough, and on examining it, you will find it neither a supporter of combustion, nor combustible. Thus the lighted taper on immersion is extinguished; it is heavier than atmospheric air, and you see it still remains in the jar like so much water. It may be poured from one jar into another like water. Thus the taper burning in this jar is extingulshed, by inverting the jar of carbonic acid over it, and allowing the gas by its own gravity to displace the atmospheric air—as you see; and the inverted jar will now support the combustion of a taper. This gas passed into lime-water, renders it turbid or milky, as you see; but the solution is again rendered limpid and clear by acetic acid, which redissolves the carbonate of lime, with effervescence, owing to the extrication of carbonic acid gas—as you may now observe,

* A demonstration by the exhibition of the actual substance itself must always be more satisfactory and conclusive than a mere inference from the development of reactions, which at best can only *be presumed* to belong *exclusively* to one individual species of organic matter.

† Ουρον urina, βαρος pondus, Μετρον mensura.

What gas, then, is this? There can be no doubt that this is carbonic acid gas, for the above are the characters which more particularly distinguish carbonic acid.

In this flask you see the completion of the process, which in the above is but in progress. In this you observe the sugar has wholly disappeared, and in place of it we find a spirituous fluid, known in fact by its taste and smell. In the flask it is combined with too much water; but we can easily separate them. For instance, in this tube we have a portion of the fluid from the flask, and to which has been added a proportion of ignited carbonate of potass; and you see it has separated into two portions—one light, and occupying the upper portion; the other dense, and with the undissolved carbonate occupying the lower portion. We shall draw off the upper portion by means of this pipette; and if you examine it, you can have no doubt that it is alcohol: for instance, its smell, its taste, and volatility, and lastly its combustibility, prove it to be alcohol. We also find that there is no sensible trace of the sugar; nor indeed if we were to examine it chemically, should we find any trace of that principle.

Hence, then, the effect of the fermentation is the conversion of the sugar into *alcohol* and *carbonic acid*. Carbonic acid consists of 1 eq. carbon, and 2 eqs. of oxygen, and may be represented, as $\ddot{C} = 6 + 16 = 22$. Alcohol consists of 2 eqs. of carbon, 3 eqs. hydrogen, and 1 eq. oxygen,

$$C^1 + H^3 + O^2 = 12 + 3 + 8 = 23 \therefore$$

The sugar appears to be converted into carbonic acid and alcohol,

$$= 22 + 23 = 45.$$

Sugar has been considered by Gay Lussac to consist of 1 carbon, 1 hydrogen, and 1 oxygen; and consequently would be C + H + O, which would give the composition as 6 + 1 + 8 = 15. This number he multiplies by 3, which will = 45, the equivalent of one atom of carbonic acid and one of alcohol. Thus three atoms of sugar consist of:—

Carbon . . 3 = 6 + 3 = 18
Hydrogen 3 = 1 + 3 = 3 } = 45
Oxygen . . 3 = 8 + 3 = 24

One atom of carbonic acid equals:—

Carbon . . 1 = 6
Oxygen . . 2 = 8 + 2 = 16 } = 22

Alcohol:—

Carbon . . 2 = 6 × 2 = 12
Hydrogen 3 = 1 × 3 = 3 } = 23
Oxygen . . 1 = 8 = 8
45

It is thus that the generation of alcohol by the fermentation is accounted for, and we can thus understand how fermentation may take place in diabetic urine, and even alcohol be evolved.

But fermentation of a different character, or at least with a different product, more frequently takes place in diabetic urine. We have already observed that syrups, and especially if they contain vegetable or any other fermentable impurities, are apt to ferment, and from the generation of *acetic acid*, this species is termed the *acetous* fermentation, in contradistinction to the *vinous*, the product from which is alcohol.

Vinegar, which is acetic acid diluted with water, and containing various impurities, was usually obtained by the fermentation of wines diluted with a considerable proportion of water. Wine and beer in which the vinous fermentation has ceased occasionally undergo a new fermentation, if kept in a temperature of from 65° to 75° of Fah., and the access of atmospheric air be allowed. In these cases the alcohol of the liquors seems to be converted into acetic acid. During the acetous fermentation, oxygen appears to be absorbed, and carbonic acid gas is evolved, and the alcohol disappears, while the mixture, on being examined, is found to contain acetic acid. Here we have run a solution of sugar into the acetous fermentation; you see it is acid: it reddens litmus, and has a sour taste. In this evaporating dish a portion has been evaporated after having been previously saturated with carbonate of soda. I take a portion of the dry residue and place it in this platinum capsule, and pour upon it concentrated sulphuric acid; and on heating, you may perceive the pungent odour of acetic acid which escapes. The smell of this acid is quite, or at all events sufficiently characteristic.

Now acetic acid is found, by analysis, to consist of four atoms of carbon, three of hydrogen*, and three of oxygen; consequently its constitution may be expressed as under:—

$H^3 = 3$
$C^4 = 24$ } = 51 anhydrous acetic
$O^3 = 24$ acid.

Alcohol is symbolized:

$H^3 = 3$
$C^2 = 12$ } = 23
$O = 8$

If, therefore, we suppose that an equivalent of alcohol have the whole of its hydrogen abstracted, or converted into water, by the absorption of oxygen from the atmospheric air, we shall have remaining, carbon 2 + O; and if we suppose this

* Thomson makes the proportion of hydrogen only two atoms.

added to another equivalent of alcohol with one additional equivalent of oxygen, we should have the atomic constitution of acetic acid; thus—

1 equiv. alcohol, decomposed = $\left\{\begin{array}{l} C^2 = 12 \\ O = 8 \end{array}\right.$

1 equiv. alcohol unchanged .. = $\left\{\begin{array}{l} H^3 = 3 \\ C^2 = 12 \\ O = 8 \end{array}\right.$ = 51.

1 equiv. oxygen superadded .. = $O = 8$

Thus in the above we find three equivalents of hydrogen, four of carbon, and three of oxygen, which are the ultimate elements of acetic acid. Hence, then, it appears that two equivalents of alcohol are, during the acetous fermentation, converted into one equivalent of acetic acid and three equivalents of water; and that this is effected through the absorption of oxygen from the atmospheric air. If, therefore, we add to an equivalent of acetic acid, = 51, three equivalents of water, = 27, it furnishes the number 78; and if we add to two equivalents of alcohol, $= 23 \times 2 = 46$, four equivalents of oxygen, $= 8 \times 4 = 32$, we shall have 78, the equivalent of acetic acid, + 3 equivalents of water. The evolution of carbonic acid does not appear essential, and is probably owing to the vinous fermentation of some undecomposed sugar, or to some other impurities.

Sugar is also capable of being converted, by the action of nitric acid, into oxalic acid; but I am not aware that the investigation of this subject will be of much importance in our present inquiry.

I have been thus diffuse upon sugar, its chemical constitution, and the various changes of which it is susceptible by the action of different reagents, because a knowledge of these phenomena may prove of no small interest and importance in some of our future pathological inquiries.

CLINICAL LECTURE

ON

RUPTURE OF THE URINARY BLADDER—EXOSTOSIS OF THE PELVIS—TUBERCULAR DISEASE OF THE PECTORAL MUSCLES AND MAMMARY GLAND—DISEASE OF THE WRIST FROM INJURY; AMPUTATION—NEBULOUS OPACITY OF THE CORNEA, AND IMPAIRED VISION, FROM A BLOW—SECONDARY SYMPTOMS OF SYPHILIS, SAID TO HAVE OCCURRED WITHOUT PRIMARY DISEASE,

Delivered at St. Bartholomew's Hospital,

By Wm. Lawrence, F.R.S., &c.

Rupture of the Urinary Bladder from external injury.

James Taplin, 35 years of age, was admitted into the hospital on Monday, July 2d, in consequence of an accident which he had met with the day before. He was in a cabriolet, which had been overturned, and the vehicle had fallen on his abdomen. He had not made water for some time, and therefore concluded that his bladder must have been full at the time of the accident, since which he had voided no urine. The abdomen was painful and tense in a slight degree, towards the lower part; above, it was tolerably soft and compressible. Pulse quick and feeble; respiration short and hurried; tongue dry; countenance anxious. There was occasional vomiting. A catheter was introduced, but no urine flowed; when the instrument was withdrawn its end was slightly smeared with blood. A few leeches were applied to the hypogastric region, and followed by fomentation.

One grain of opium every four or six hours.

July 3d.—No urine has been voided, either naturally or by the catheter, which has been again introduced. The symptoms are worse, though without acute suffering. Pulse 140.

4th.—Rejection, by vomiting, of a black fluid, giving the tongue a similar colour, quite different from its dark appearance in typhus. Pulse sinking; the cerebral functions not disturbed. He died in the evening.

6th.—*Examination of the body.*—The bladder presented, on the posterior aspect of its fundus, a rupture more than an inch in length, through all the tunics. It was a tolerably clean division, with the edges a little ecchymosed. There was general peritonitis, of which the appearances were most strongly marked in the neigbourhood of the bladder. The abdomen contained a turbid fluid, of tawny colour, to the amount of four or five pints; it had no urinous smell. The mucous membrane of the air-passages, and that of the stomach, were congested. The other organs were healthy.

The escape of urine into the abdomen, and its rapid diffusion over the cavity, excite general peritonitis, attended with serious depression of the vital powers;

and death ensues in a short time, under circumstances which seem to render our efforts unavailing and hopeless. In the present case, the bladder had been full at the time of the accident; twenty-four hours had elapsed without any attempt at relief. The viscus was then found to be empty, so that three or four pints of urine must probably have passed into the abdomen. The catheter should be introduced as early as possible in a case of ruptured bladder; and it would probably be advisable to leave it in permanently, so that the urine might flow off externally. The violently irritating effects of this fluid on surfaces with which it comes into accidental contact, hardly allow us to hope that the peritonitis can be controlled in these cases, more especially as the state of the circulation and that of the nervous system entirely preclude active depletion. The wound in the bladder cannot be expected to unite, as its sides must be moistened with urine. If the patient's life could be prolonged, the breach in the bladder might possibly be closed by the adhesion of the neighbouring viscera. No instance, however, has come to my knowledge of recovery from this injury.

It appeared to me, in the present case, that the administration of opium had an advantageous effect in alleviating suffering.

Two cases of destructive, I might probably say malignant disease, have lately occurred in the hospital, and have terminated fatally within the last few days. Having the opportunity of shewing you the morbid parts, I will at the same time mention shortly the particulars of these cases.

Exostosis of the Pelvis of unusually rapid growth.

Mary Petit, 30 years of age, has gained her livelihood by selling fruit in the streets, and has led an intemperate life. About six weeks before she came to the hospital she observed that the veins of the right leg were swollen, and she attributed the circumstance to over exertion. Soon after, a tumor, the size of a nut, appeared in the situation of the femoral absorbent glands on the same side; it did not prevent her from following her occupation. As the swelling increased, and became painful, especially on exertion, she applied at the hospital, and was admitted on December 21, 1837. At this time the veins of the right lower extremity were varicose in a slight degree, and there was a tumor in the bend of the thigh not larger than a pullet's egg. Being of oval figure, with slight irregularities of surface, it was considered to be an enlargement of the femoral glands. It was free from redness, and not painful on pressure; yet the patient complained of considerable uneasiness in the part.

The Ung. Potassæ Hydriodatis to be rubbed on the swelling,

29th.—Great pain in the swelling.

Ten leeches; linseed poultice.

Jan. 1st, 1838.—The tumor is larger, and so painful as to prevent rest at night. The limb is œdematous.

Four grains of Potassæ Hydriod. in two ounces of Decoct. Sarsap. Co. three times daily. One-third of a grain of Muriate of Morphine every night.

9th.—The limb more swelled, with increase of pain.

The dose of Morph. Mur. increased to half a grain. An ointment, consisting of Cerat. Cetac. ℥ss., with Pulv. Opii, ℥j. to be rubbed on the swelling in the thigh night and morning.

The tumor increased rapidly, and became more and more painful. Having been at first moveable, like a glandular swelling, it became fixed, and extended along the inside of the thigh, in the direction of the pubes and ischium, forming a large mass, of firm feel, not painful on pressure, filling up the space between the pelvis and thigh. In the early part of April the growth was found to extend behind the abdominal muscles, towards the cavity of the pelvis. It continued to increase rapidly, both on the outside and inside of that cavity, its growth being attended with correspondent general swelling of the limb.

On May 1st, the tumor, which is hard and incompressible, has stretched across the pelvis to the left side of the body; and the left leg begins to swell. On May 17th, it had nearly reached the umbilicus. Her sufferings were constant and acute, and only imperfectly relieved by opiates; her strength was thus exhausted, and dyspnœa came on in June, when she was so reduced and enfeebled, that death was expected daily. She lingered till July 1st.

Neither local nor general means had the slightest effect on the complaint. The treatment consisted in the free use of opiates, particularly of the muriate of morphine, and in the allowance of such nutritious diet and cordials, including animal food, sago, porter, and wine, as the weakness required, and the appetite would admit of.

The disease consisted of an enormous mass growing from both sides of the pubes and ischium, extending downwards to the groin and inside of the thigh, upwards to the pelvis and abdomen. The viscera were necessarily displaced, the bladder and internal organs of generation

being pushed towards the left side; while the abdominal contents were thrust upwards against the diaphragm. The basis and centre of the mass were firm bone, and the growth at its origin was identified with the bone from which it proceeded. The exterior was of softer composition, and displayed a fibrous texture, more or less firm. On the surface this exhibited, in some situations, cells containing either serous fluid or grumous blood.

No disease was observed in the absorbent glands.

The thoracic viscera were healthy.

In its origin, and in the composition of its basis and interior, this tumor was an exostosis; in the rapidity of its growth, in the severe pain which accompanied it, and in the constitution of its exterior, the characters were those of a malignant growth. I have seen a somewhat similar combination of bony excrescence, with softer growth, the latter being in some parts of nearly medullary consistence, and formed into cells containing bloody fluid, in the tibia, where, however, the disease was of long standing. The limb was amputated, and there was no reproduction of disease. Had the disease been seated in the tibia in the present instance, it would have been right to amputate.

Tubercular Disease of the Mammary Gland and adjacent structures.

Anne Watkins, a married woman, 64 years of age, was admitted into the hospital on the 11th of June, 1838. She had enjoyed good health till eight or nine months ago, when she observed a small tumor in the right axilla. She paid little attention to it till five months afterwards, when the swelling increased, and enlargement, with some hardness, was observed along the back and breast. Three weeks before her admission, a hard swelling was observed above the clavicle; the arm then began to swell about the elbow, and the enlargement extended upwards and downwards, until the whole limb was involved. At this time she experienced severe and constant pain, with occasional paroxysms of dyspnœa. The disease is described at the time of admission as scirrhus of the right axillary and supraclavicular absorbent glands, extending to and involving the right mammary gland; firm œdema of the upper extremity, with some redness and heat; similar firm swelling, with redness and heat, of the right side of the thorax and shoulder. The pulse was small and feeble, and the health much impaired by pain and consequent loss of sleep.

The treatment consisted in the application of leeches, which were repeated, in moderate number, five or six times; in that of cooling washes, fomentations, and poultices; in the administration of opiates; and in the allowance of such support as circumstances permitted. The disease proceeded in spite of these means; the inflammation of the integuments increasing, the pain and dyspnœa becoming more considerable; and death took place on July 1st.

The skin was thickened and preternaturally vascular, where it had been red and swollen during life; and the subjacent cellular tissue was thickened, and infiltrated with serum. The pectoral muscles were studded as thickly as they could stand with firm white tubercles, about the size of peas. The axillary glands, those above the clavicle, and the cellular texture around them, as well as that surrounding the axillary vessels and nerves, were diseased in the same way. Some of these tubercles projected into the cavity of the axillary vein, and several small ones were found in the trunks of the principal axillary nerves. Similar tubercles were dispersed through the substance of the right mammary gland; but they were less numerous than in the pectoral muscle. The right pleura was thickly dotted with hard, white, small bodies, projecting on its serous surface, more particularly on the anterior aspect of the cavity. It contained some pints of fluid, and the lung was consequently reduced into a small space, and condensed. The absorbent glands on the anterior mediastinum were enlarged and indurated. The other viscera of the thorax and abdomen, and the contents of the cranium, were healthy.

Amputation of the Forearm for Disease of the Wrist and Carpus, consequent on Injury.

T. Middleton, 23 years of age, a young man of good constitution, who had always enjoyed excellent health, received a serious strain of the wrist four years ago. The hand was forcibly bent backwards, in consequence of a heavy cask which he was employed in moving coming unexpectedly against the palmar aspect of the limb. Swelling, stiffness, and uneasiness, ensued, which he neglected, and followed his usual occupations, the injured part being sometimes more, sometimes less troublesome. At length the complaint assumed a more serious aspect, and leeching was resorted to, with other measures, but the treatment was not followed up systematically. A few months ago he came into the hospital, under my care, with great swelling of the wrist, neighbouring part of the forearm, and hand, the hand being strongly bent on the radius and ulna, and fixed in that position, the fingers extended, and nearly

motionless. The soft parts about the wrist were in a state of chronic inflammation, and the integuments red. There were two or three fistulous openings over the wrist. The forearm and hand were put on a splint, and kept at perfect rest; local antiphlogistic means were adopted, and the state of the parts was soon so much improved, that the patient left the hospital. He returned again in June, with a renewal of the former symptoms to a greater extent. After the parts had been brought into a tolerably quiet state, amputation was performed, as no reasonable expectation could be entertained of restoring the limb to a useful state: it was removed as near to the wrist as the disease would allow.

The wrist-joint and the carpus were covered by a thick mass of firm whitish substance, which also surrounded and involved the flexor and extensor tendons. This consisted of cellular texture, thickened and condensed by inflammation. No trace of cartilage remained on the carpal extremity of the radius, of which the surface was irregular, and covered by a vascular growth, which, under favourable circumstances, might have led to anchylosis. The corresponding articular surface of the carpal bones was in a similar condition. The synovial membrane of the joint could not be traced distinctly. The articulations connecting the carpal bones to each other and to the metacarpus, had undergone corresponding disorganization, while several fragments of the latter had perished and become completely detached. The radius and ulna possessed their natural solidity, and were completely sound where they had been sawn through in the amputation.

The serious and extensive disorganization which ensued in this case, on a local injury in a healthy individual, must be ascribed to the neglect of rest and other suitable measures in an early stage of the affection. There is no doubt that proper management from the beginning would have prevented this mischief. Hence we may derive the useful lesson of attending closely to such accidents, even when they are not followed by considerable or striking symptoms, and of continuing our treatment until all swelling and uneasiness are removed, and the free action of the parts is restored.

Two or three days after the operation, the stump swelled and the integuments of the forearm became bright red, and painful. This affection, which is often mentioned under the name of erysipelas, being unattended with the formation of bullæ or vesicles, comes under the nosological head of erythema. The inflammation on the present occasion was active, and spread along the upper arm to the shoulder, being attended with feverish disturbance of the constitution. The application, at different times, of six dozen leeches, gave great relief. I find free leeching the best mode of checking this erythematous affection, when it comes on after operations; the leeches act most beneficially when applied to the inflamed skin, and I have never seen any injurious effect from their bites, either in erythema or erysipelas.

Nebulous Opacity of the Cornea, with impaired Vision, from a Blow on the Eye.

Samuel Williamson, 24 years of age, a cab-driver, came to the hospital on July 2d, having received a severe blow on the eye with the lash of a whip, a day or two before. There was slight redness of the sclerotica, with partial nebulous opacity of the cornea, and impaired vision. Bleeding from the arm was directed. When twelve ounces had been drawn, he fainted.

A dose of Calomel and Jalap. Cold Lotion to the eye. Milk diet.

3d.—Eighteen leeches on the temple and forehead.

5th.—A blister between the shoulders. The redness was removed, and the opacity completely dissipated, by these means. The patient left the hospital, with vision perfectly restored, on the 9th.

Impaired vision, or complete loss of sight, may follow a blow on the globe. The effect is ascribed to concussion of the retina. In the present instance it was doubtful whether the injury to vision arose from this cause or from the opacity of the cornea, which had followed the injury quickly. The result proved that the latter was the case. The amaurosis consequent on concussion goes off slowly, and sometimes proves irremediable.

Two Cases of Constitutional Syphilis, in which the Patients represented that there had been no Primary Sore.

William Sibbick, 25 years of age, was admitted into the hospital on June 28, 1838, on account of ulcers in various parts of the body. He has been working on railroads for six years, and the last six months on the Kilsby Tunnel, in Northamptonshire, where he took cold, and had stiff-neck. The ulcers began six weeks ago, at first in the form of pimples. There are now several sores of circular figure, from the size of a shilling to that of half-a-crown, on the back, arms, left thigh, face, and eyelids. These are mostly covered with brownish scabs, and the crusts in several are prominent and conical (*rupia prominens*). A large ulcer occupies nearly the whole length of the upper eyelid on the left side, of which it

has destroyed one-third in depth. A smaller sore is situated on the ciliary margin, and external surface of the right upper lid, near the external angle. There is slight ulceration of the fauces. Although these sores have the most unequivocally syphilitic character, the patient represents that he has never had venereal disease in any shape. He had suffered considerable pain, had rested badly, was thin, sallow, and feeble, and had a small weak pulse.

The sores to be poulticed, and dressed, when the scabs have fallen off, under the poultices, with an ointment consisting of cerat. cetacei and ung. hydrarg. nitrico oxydi in equal parts. The same ointment spread on thin linen to be applied to the ulcers of the eyelids. Five grains of the pil. sapon. c. opio every night: a dose of the extr. fluid. decocti sarsap. co. every six hours. Six ounces of Port-wine daily. Milk diet.

July 2d.—The patient is rather feverish.

The wine and sarsaparilla to be omitted. The lotion of hydrarg. oxymur. in liq. calcis to be applied to the ulcers under the poultice. The red precipitate ointment to be continued to the sores on the eyelids. Two grains and a half of the hydrarg. c. creta every six hours.

6th.—The ulcerative process is stopped, and the sores are granulating. The throat is well.

9th.—The hydr. c. creta to be taken twice a day. Meat diet.

16th.—The health and strength are much improved; cicatrization is proceeding rapidly.

The hydr. c. creta and pil. sapon. c. opio to be left off.

20th.—Two gr. of quin. sulph. three times a day. Warm bath every second day.

30th.—Discharged quite well. All the sores are soundly healed. The apparent loss of substance in the left eyelid is diminished by the contraction of the cicatrix, although a small portion of the globe is exposed. When the lids are closed no inconvenience is experienced.

On the 21st of June, 1838, I was consulted by a gentleman, 18 years of age, on account of ulcers on the forehead, right arm, and gums. He was of fair complexion, with light hair and blue eyes. He had always enjoyed good health, and was at this time perfectly well. In March, or April, 1837, he had contracted gonorrhœa, which lasted two months; the inguinal glands of the left side were a little swelled. No sore nor excoriation had accompanied the clap, and nothing of that kind had occurred since. He had had no sexual intercourse since Christmas, 1837; and I could discover no marks of previous ulceration on the external organs of generation. He stated that pimples had appeared on the forehead three months previously, and gradually came into sores; that a fortnight afterwards two sores began on the right arm, the throat ulcerated, and the gums became sore. He had taken hydrarg. oxymur. gr. $\frac{1}{8}$, four times; then potassæ hydriod. gr. viij. in decoct. sarsap. co. daily for a month; afterwards, the acid. nitr. dilut. for a week. He had lately tried the latter remedy again. He has now nine ulcers, of circular figure, the largest equal in size to a shilling, on the left eyebrow, the forehead, root of the nose, and the beginning of the hair: they are covered with slightly prominent crusts. There are two similar sores, with brown crusts, on the right shoulder and forearm. All the sores are painful, particularly at night. The gums of both jaws in the front of the mouth, as far as the cuspidati, are superficially ulcerated, especially round the necks of the teeth. The ulcers have a tawny surface, and the gums are of a deep red.

Pil. hydrarg. gr. iij. cum Extr. hyoscyami gr. j. ter quotidie. Extr. fluid. decoct. Sarsap. co. ter quotidie. Lot. hydrarg. Oxymur. cum liq. calcis, ulceribus.

July 5th.—Slight mercurial influence. The sores are healing, and the gums much improved.

16th.—Two of the frontal ulcerations are not yet cicatrized.

By the end of the month the ulcers were quite healed, and the gums sound. The remedies, under which the mouth had been kept moderately sore, were now discontinued.

The histories of their complaints which we receive from syphilitic patients, especially in regard to their origin, are often such as we cannot credit, even when there is no apparent motive for misrepresentation or concealment. I feel convinced that the syphilitic ulcers of Sibbick must have been preceded by primary symptoms: to suppose the contrary would be the same as to believe that small-pox might occur without infection or inoculation. The constitutional syphilis in the second case must also be referred to an unacknowledged primary sore; unless we should believe that it might have been consequent on the gonorrhœa contracted a year before.

ANOMALOUS CASES OF ANEURISM.

CASE I.—*Aneurism of the Aorta from Effusion of Blood between the Laminæ composing the middle Coat of that Vessel.* By C. W. PENNOCK, M.D., Physician to Philadelphia Hospital, Blockley.

THE patient who was the subject of the following observations was a black woman, ætat. 75, who entered the Philadelphia Hospital, December 20th, 1835. Her health had been uniformly good until eight years previously, when she experienced slight difficulty of breathing, with some beating of the heart, which was augmented by ascending heights. During the summer of 1827, whilst using great muscular exertion (pumping water), she was seized with sudden and severe pain at the sternum, attended with violent action of the heart, and a sense of suffocation. The pain increased in violence, and after remaining fixed in front of the chest for two weeks, became laminating, extending from the sternum to the back, and was attended by a short cough, but (the patient says) without marked fever. The pain continued nearly three months; upon its cessation the increased dyspnœa prevented laborious exertion. The cough and difficulty of breathing remained, varying in intensity at different seasons, being less distressing during the summer, whilst they were aggravated in the winter. The dyspnœa and palpitation were greatly increased after an attack of cholera, in 1833. During the last four years, besides the thoracic affection she has experienced severe uterine pains, with bearing down sensations in the pelvic region, and occasional suppression of urine. Two years since, discharges of blood from the vagina took place, which have generally occurred at regular intervals of three weeks. The inferior extremities have often swollen from cellular infiltration.

When received into the hospital, she presented the following symptoms:—Countenance anxious; no pain in the head; intelligence perfect; great debility; position in bed elevated; œdema of the legs and ankles; pulse 90 per minute, full, tense, intermittent; slight muscular movements cause palpitations of the heart; oppression but no pain in the præcordial region. Chest is well formed; anteriorly, with the exception of the region of the heart, it is very resonant upon percussion; posteriorly, percussion yields a normal sound. Respiration in front very feeble; absent over the inferior third of the sternum; posteriorly, normal. Over the region of the heart percussion is dull in a space, the outline of which corresponds to the form of the pericardium, which extends downwards from the cartilage of the third rib the length of sternum, and laterally on a line drawn through the nipple, from one inch to the right of the middle line of sternum to the margin of left axilla. Impulse of the heart forcible; rhythm nearly natural; first sound roughened, having a rasping sound strongly marked opposite the cartilages of the third rib and along the upper third of the sternum; second sound dull, somewhat prolonged.

Abdomen soft, no pain on pressure. Appetite good, food generally rejected some hours after eating; lancinating pain in the pubic region extending to the lumbar vertebræ; dyspnœa and oppression greatest at night, when she is obliged to sit upright in bed gasping for breath. (Treatment—Venesection, cups over the præcordial region. Pil. Pulv. Camph. grs. iij. Sulph. Morph. grs. $\frac{1}{8}$ q. b. h. Tr. Digitalis, gtts. x. t. d. Milk diet.) Small portions of blue mass and squills were subsequently given. The patient in two weeks was apparently better—position in bed was more horizontal, the œdema diminished, sleep less disturbed, and the nightly asthmatic paroxysms less intense. This melioration was but momentary; in a few days the symptoms recurred with increased violence. The inferior extremities became greatly swollen; orthopnœa was extreme, and the patient was obliged to be constantly in a sitting posture. The impulse of the heart was now more strongly felt, the head of the auscultator being forcibly raised when the ear was applied to the chest; the first sound of the heart predominated over the second, but the latter was distinctly audible on the right margin of the sternum. Between the cartilages of the third and fourth ribs the rasping sound was plainly heard, and could be distinguished along the left margin of the sternum synchronous with the first sound of the heart. The distressing

thoracic symptoms were attended with agonizing pain in the womb, and with discharge of clots of black blood from the vagina. Transient relief was afforded by venesection, topical depletion by cups and leeches, and the exhibition of camphor and the narcotics. Orthopnœa, however, with the utmost distress from a sense of suffocation, became constant after the middle of January, and death took place on the 26th of that month.

Autopsy, 36 hours after death.—Large frame; moderate emaciation; infiltration of cellular tissue of lower extremities.

Thorax.—No adhesion of the lungs to the pleura costalis. Lungs throughout crepitant; vesicles of the upper lobes much dilated, from the size of a pea to that of a hazel-nut. The parenchymatous structure throughout of a dark grey almost black colour, resembling melanosis. The bronchia contain viscid dark-coloured mucus, without odour.

Heart much enlarged, more than double its natural size; right cavities more dilated than those of the left; coagula in both ventricles, especially the right. The parietes of the left ventricle measure seven-eighths of an inch in thickness; those of the right ventricle natural. The semilunar valves of the aorta partially ossified; the mitral valves opaque, thickened, with cartilaginous depositions on the free edges; semilunar valves of the pulmonary arteries and tricuspid valves, natural. *The aorta* is apparently much dilated, and, when cut into, presents the remarkable appearance of being a double vessel. The internal vessel is the aorta (*f*) is the aorta proper communicating directly with the heart, and is nearly surrounded by another vessel (*e*), of much larger diameter, which, commencing opposite the great sinus of Valsalva, accompanies the aorta until it divides into the primitive iliacs and terminates in a *cul de sac*. The aorta communicates with the external vessel by a valvular fissure half an inch in length, with rounded edges, which penetrates through the serous and *partly* through the middle coats, and which is situated half an inch above the semilunar valves. The external vessel has no communication with the heart except by this opening. The innominata, subclavian, and left carotid arteries have each double orifices communicating with the aorta and external vessel. The innominata near its mouth is divided by a septum into two portions; the septum terminates in a semilunar edge half an inch above the aorta. In the left carotid the appearance of double vessels is presented for the space of two inches; each has separate openings, one communicating with the aorta, the other with the external vessel. In the left subclavian, on the contrary, there is no double vessel; the orifices opening into the aorta and external vessel being merely formed by a valvular septum at the mouth of the artery*. The intercostals of the right side of the thorax communicate with the aorta, whilst those on the left open into the external vessel†. The cœliac, superior and inferior mesenteries, renal and other arteries given off in the abdomen above the bifurcation into the primitive iliacs, communicate with the aorta. The aorta is perforated by numerous foramina, by which communication is established between it and the external vessel. Anteriorly the external vessel is composed of three coats: an outer, which is cellular; middle formed of muscular circular fibres; and an internal, which resembles the serous tissues, but is of variable thickness, and presents various colours in different parts of its extent. The cellular coat and the lamina of muscular fibres are continued around the posterior semi-circumference of the aorta, where the muscular circular fibres uniting with the yellow elastic tissue of that artery form in that portion of its middle coat. The internal membrane of the external vessel, on the contrary, is reflected upon the anterior semi-circumference of the aorta, and the two vessels are there firmly connected by tendinous bands resembling chordæ tendinæ, which pass from one vessel to the other. These bands being cut, the lining membrane may be readily dissected up; it is of a dull white colour, semi-transparent, and evidently takes its red and yellow appearance from the subjacent red fibres of the external coat and from the elastic tissue of the aorta. The structure of the aorta in its poste-

* The ductus anteriosus had evidently opened directly into the aorta.

† This specimen of morbid anatomy was presented to the College of Physicians, at their meeting in February 1836, and is now deposited in the Wistar Museum of the University of Pennsylvania.

rior semi-circumference is normal; in its anterior circumference, the yellow elastic tissue is devoid of the external muscular fibres; the cellular coat is also wanting, and is replaced by the reflected membrane of the outer vessel. Numerous ossific deposits exist in the aorta between its serous and elastic coats, but none in the external vessel. Immediately above the bifurcation into the primitive iliacs the external vessel ceases, the red muscular circular fibres and yellow elastic coat become firmly united in the entire circumference of the aorta, and the structure of the iliacs and that of the other arteries throughout the body present the usual arterial formation.

Remarks.—The inquiry at once presents itself what is the character of the anomalous formation of the aorta? Was it congenital, or is the external vessel factitious? This problem was highly interesting in its character, and for its elucidation the specimen was submitted to the examination of several of the most distinguished anatomists of this city. From the eminent Professor of Anatomy of the University of Pennsylvania the writer received the following communication:—

January 9, 1836.

Dear Sir,—I have made a further examination of the aorta of your patient, and am more disposed to the opinion already expressed by me, that its original conformation was normal, but at a subsequent period, a laceration of the internal and middle coats occurred in the great sinus of Valsalva; and that a column of blood was introduced under the cellular coat so as to detach its semi-circumference from the middle coat down to the primitive iliacs, and also produce a similar condition in the roots of the large branches from the summit of the arch of the aorta.

The arterial structure which has been so well developed in the factitious routes, the fibrous cords like cordæ tendinæ at the margins, and the well-defined orifices of the intercostal arteries, all prove the antiquity of these routes.

The precise time of life at which so remarkable a change happened can of course only be conjectured; if after birth, it must have been brought about very slowly so as to accommodate the system to it.

I am very sincerely &c.,

W. E. Horner.

Subsequent to the receipt of the above note, further dissection showed the identity of structure of the middle coat of the external or aneurismal vessel with that of the aorta, and the intimate union of the two in the posterior semi-circumference of the artery. This induced the idea that the blood which had been propelled through the laceration near the sinus of Valsalva had not penetrated the entire thickness of the middle coat of the aorta, but had separated its external from the internal lamina. In order to ascertain whether a separation of this kind could be effected by a fluid thrown between the laminæ of the middle coat, experiments for that purpose were instituted. A small tube with a capillary extremity was introduced between the laminæ of this coat of the artery, and water was forced through it from a syringe in a direction parallel to the sides of the vessel. The result was, that the middle coat was separated in three distinct laminæ*. These views and facts were submitted to the examination of Professor Horner, who fully agreed with me in the idea, that the factitious vessel was the result of the separation of the external from the internal lamina of the middle coat, and that its internal membrane was formed by coagulable lymph, which had simulated the appearance of a serous tissue.

This case may, therefore, be regarded as analogous to those cases of dissecting aneurisms reported by Morgagni†, Nicholls, Laennec‡, Guthrie§, M'Lacklin‖, Shekelton¶, but differing from them in this, that the aneurism in this instance was formed *between* the laminæ of the middle coat, and that the blood in circulating through the factitious vessel supplied the intercostal arteries of the left side. My search for a parallel case has been unsuccessful, and I am compelled to consider that if this form of aneurism be not *unique*, it must be of extremely rare occurrence. The remarkable lesion of the innominata and left carotid arteries, where the blood after

* A specimen in my possession, prepared in the manner above mentioned by my friend Dr. Bush, of Wilmington, Del., whilst resident physician of the hospital, shows the separation very satisfactorily.

† Epist. LVIII. No. 13.

‡ Tome III. p. 295, Edition 1831.

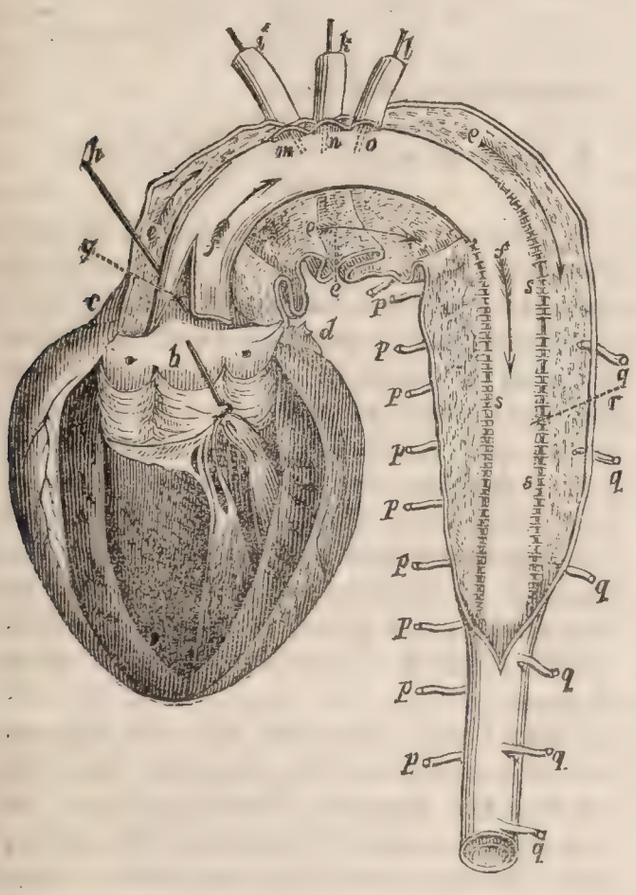
§ Guthrie on the Diseases of the Arteries, p. 43.

‖ Glasgow Medical Journal, Feb. 1828, p. 81.

¶ Dublin Hospital Reports, Vol. III.

separating the tunics of these vessels as in the aorta, and forming two channels for its passage returns through another rent into the canals of the arteries, is similar to the two cases reported by Mr. Shekelton.

As regards the time when this dissecting aneurism commenced, I am induced by the history of the case to suppose, that the laceration near the sinus of Valsalva took place eight years before death, whilst the individual was using violent muscular exertions in pumping.



References to Engravings.

a. Left ventricle of the heart, opened from the apex to the base.
b. Cardiac extremity of the aorta laid open, shewing the semilunar and mitral valves, and the orifices of the coronary arteries.
c. Pulmonary artery.
d. Left auricle.
e. External vessel laid open in its entire extent, bringing into view the aorta *f*.
g. Valvular opening through the coats of the aorta; the wire *h* is passed through the valve, showing the communication of the aorta with the external vessel *e*.
i, k, l. Arteries giving off from the arch of the aorta; they open into the external vessel at *m, n, o*, and also communicate with the aorta as indicated by the dotted lines.
p. Intercostal arteries of the right side of the thorax, communicating with the aorta.
q. Intercostals of the left side opening into the external vessel *e*.
r. Foramina between the aorta and external vessel.
s, s, s. Tendinous bands passing from the internal coat of the external vessel, connecting it with the aorta.

Case II.—*Account of a case of Dissecting Aneurism seen at an early stage.* By Paul B. Goddard, M.D., Demonstrator of Anatomy, University of Pennsylvania.

In January, 1836, I was requested by Dr. William Harris to make an examination of the body of a woman who had died under the following circumstances: This woman, who was cook in a respectable family in this city, was taken suddenly ill about five o'clock in the afternoon, whilst making some exertion, and complained of faintness and oppression in the region of the heart. Dr. Harris was immediately sent for, and caused her to be bled, which relieved her considerably. He saw her again in the evening and found her weak, but observed no symptoms indicative of immediate danger. He was called up to her, however, in the night, and found her moribund; death took place soon after midnight.

On examination, the pericardium was found distended with dark blood, firmly coagulated, estimated to amount to at least eight ounces.

The heart was large and fat, but its structure was normal in every part; the lining membrane of the aorta presented a yellowish appearance, studded here and there with minute ossific patches; about three-fourths of an inch from the semilunar valves a rupture was found nearly an inch in length in a transverse direction, which extended through half the thickness of the middle coat. A channel led both upwards and downwards from this point, which was produced by the separation of the laminæ of the middle coat, extending in width to one-half of the circumference of the artery. The upper channel followed the arch of the aorta, and descended as

far as the origin of the eighth intercostal artery, leaving the aorta at the summit of the arch to run some inches between the coats of the innominata, left primitive carotid, and subclavian. It also ran along some of the intercostals. Many obstacles were thrown in the way of a more perfect dissection by the family, and the distance to which it extended in the vessels of the neck was not precisely ascertained.

The whole of this channel was occupied by a coagulum of dark blood. The lower channel, which appeared to be subsequently formed, and in all probability caused the death of the patient, extended from the rupture in the internal coat to the point of junction of the fibrous pericardium with the root of the aorta; it passed between the two, and then, by a rupture of the serous pericardium, escaped into its cavity.

The woman was very fat, and appeared to be well formed, muscular, and in good health at the time of the accident. Every other organ of the thorax and abdomen was normal. The brain was not examined.

The preparation, which was obtained with difficulty, stands at the side of Dr. Pennock's in the anatomical museum of the University.

I believe that if the rupture had not extended into the pericardium, the woman would have lived, and an adventitious serous lining being formed for the new channel, it would have presented in after years, the same appearance as Dr. Pennock's preparation. There is one point very remarkable. In Dr. Pennock's case, there are seen in the angle between the new and the old channel, on either side, a number of filaments covered with a new serous lining and extending from the old vessel to the new; in my preparation the same filaments exist, formed of shreds of the middle coat, but smaller than in Dr. Pennocks's, in consequence of the want of the adventitious covering.

The occurrence of the two cases within a short time of each other, would go to show that the accident, when well understood, will be found to be more frequent than has been supposed*.

* The preceding interesting cases of aneurism are taken from the American Journal of the Medical Sciences.

SURGICAL CASES.

To the Editor of the Medical Gazette.

Sir,

The following cases, selected from many that have occurred under my notice in the practice of the Liverpool South Dispensary, seem to possess sufficient interest to warrant their publication. If you think them worthy of insertion in your valuable journal, they are much at your service.—I remain, sir,

Your obedient servant,
H. G. Harbord.

Liverpool, Jan. 29, 1839.

1. *Case of a Foreign Body in the Trachea.*

A girl, ætat. 10, was brought to the Dispensary in a state of approaching asphyxia. It was stated that a few minutes previously she had swallowed the stone of a damson. Her countenance had that peculiarly anxious expression so strongly indicative of an impediment to free respiration; her lips and cheeks were of a livid hue; her eyes appeared starting from their sockets; the assistant muscles of inspiration were powerfully in action; in a word, death from suffocation seemed at hand. With a view of ascertaining the situation of the offending body, I passed my two fingers over the dorsum of the tongue, and had reached the margin of the glottis, when a violent attack of vomiting took place, and the contents of the stomach were ejected. An immediate remission of the symptoms ensued. The breathing became calm and free, and the girl expressed herself relieved. As I could not discover the fruit-stone in the ejected contents of the stomach, I was at a loss to account for this sudden remission of the symptoms; either the stone had fallen low into the trachea, or into one of the larger bronchial divisions, or, what was hardly probable, had passed into the stomach. However, the girl was dismissed; but after three hours time, was brought again to the Dispensary, her symptoms being renewed with aggravated intensity. She made also now incessant efforts of coughing, during a paroxysm of which the symptoms were renewed suddenly. The case was now clear; the stone was again

in contact with the delicate and irritable structure of the larynx.

As the vomiting had been of so much service, an emetic of the sulphate of zinc was administered; after its operation the symptoms disappeared. On applying the stethoscope to the chest, the respiratory murmur over the left side was puerile; over the right but indistinctly heard. During any effort of coughing, the stone was moved from its position, and the sounds of respiration presented varieties according to its situation. Presently a violent paroxysm of coughing ensued, and the stone being again propelled into the larynx, the symptoms were renewed, but soon subsided. A consultation was held, and it was determined that tracheotomy should be deferred at least until a recurrence of the severe symptoms. She was ordered frequent doses of an opiate demulcent, and was sent home. On the following morning I visited her, and found her playing about the house: she had slept well during the night, her rest being occasionally disturbed by a slight cough. From the sounds of respiration, it seemed that the stone was impacted edgewise in the right bronchus, a little below the bifurcation of the trachea. During three successive days she presented the symptoms of a mild bronchitis.

On the morning of the fourth day, during a violent paroxysm of coughing, the stone was ejected, together with a considerable quantity of mucus streaked with blood. The bronchitis soon subsided, and the girl recovered her usual health.

Case II. — *Compound Fracture, with Depression of the Cranium.—Depressed portion allowed to remain.—Complete Recovery.*

A boy, æt. 14, was brought to the dispensary; a few minutes previously he had fallen from a height of fifteen feet to the ground, his head coming in contact with the sharp edge of a bar of iron. He was insensible for a few moments, but soon recovered consciousness. On examination, there was found a lacerated wound about two inches in length, above the left eyebrow, a piece of bone of the size of a crown-piece being driven in upon the dura mater; copious hæmorrhage, which seemed to proceed from a wound of a large branch of the meningeal artery, issued from the wound.

As there were no well-marked symptoms of interference with the functions of the brain, the depressed bone was not elevated. The head was ordered to be shaved, the shoulders raised, and cold applications to be constantly applied; on the supervention of partial syncope, the hæmorrhage subsided. This was in the morning. In the evening the pulse having risen, and become full, the hæmorrhage was renewed, but was immediately arrested by a copious bleeding from the arm. Aperients were prescribed. The following morning the pulse was less frequent; the patient had slept three or four hours during the night, and expressed himself as feeling better. In the afternoon he was conveyed home: in the evening he was attacked with a violent pain of the head, accompanied with noises in the ears; there was much intolerance of light; the countenance was flushed; the pulse was 110, strong and full. Sixteen leeches were applied to the temples; the cold applications were continued. Calomel in doses of three grains was given every three hours, together with a saline mixture with camphor and henbane. The following morning all the symptoms were ameliorated, and the case proceeded so favourably, that in three weeks the boy was able to resume his occupation of caster in a foundry; and although his employment exposed him to intense heat and loud noises, he felt no inconvenience except an occasional slight pain of the head.

Case III.—*Depression of the Cranium without Fracture, partially raised by the Application of a Cupping-glass.*

A fine child, ætat. five months, was brought to the dispensary in a state of complete stupor. A short time previously, while in its mother's arms, it received a blow on the head from the elbow of a powerful man who was in the act of quickly raising his arm. On examination, an extensive depression was found occupying the anterior portion of the left parietal bone; the anterior fontanel was rendered exceedingly tense. The house-surgeon ingeniously suggested the application of a cupping-glass, which was immediately done, and with the best effects; for although the concavity was not entirely removed, it was so much diminished, that the effects of pressure disappeared, and the child recovered sensibility and power of

motion, and no ill consequences ensued. I saw the little fellow two months afterwards, at that time cutting some teeth, but the predisposition to cerebral action seemed little increased by the state of his cranium.

The chief points of interest in the first of the cases related above, are, the effects of the emetic in relieving temporarily the distressing symptoms, and the subsequent expulsion of the stone. It moreover confirms a principle of practice which is generally recognised by surgeons, that tracheotomy should not be performed, unless death from asphyxia seems inevitable, or unless life is endangered by the irritation produced by the continued contact of the offending body with the delicate mucous lining of the air-passages.

The second case is interesting. The hæmorrhage from the wound seems to have been of service in preventing the development of inflammatory symptoms, and the successful issue of the case confirms the rule of practice, that the trephine should not be used in cases of fracture with depression, unless symptoms of compression are present, and such symptoms are clearly referrible to the depression.

The third case presents little worthy of notice, except the ingenuity which devised, and the success that attended the simple method of treatment.

MALPOSITION OF THE KIDNEY.

To the Editor of the Medical Gazette.

Sir,

I forward for insertion in your valuable journal the following case of extraordinary malposition of the left kidney, as one of extreme rarity, and calculated to furnish some interesting reflections as to the train of morbid symptoms that would have been occasioned by utero-gestation under such circumstances. I was lately called upon to inspect the body of a female child, about six months old, which had died rather suddenly, it was said, of convulsions; and, in the course of the inspection, on tracing the intestines with a view to their external appearance, I observed what at first sight looked like a tumor, but which a very slight examination proved to be the left kidney, situated with *its pelvis close to the promontory of the sacrum, on the inner side of the psoæ muscles, and upon or in front of the left common iliac artery.* Its position was rather oblique, the upper extremity being in contact with the inner edge of the psoæ, whilst the lower extremity passed rather in front of the upper part of the sacrum, to which it was bound down by the peritoneum, in common with the rectum. The renal artery was derived from the aorta, about half an inch above its bifurcation into the common iliacs. The left broad ligament of the uterus was formed by the peritoneum passing *immediately* from the kidney, so as *intimately* to connect the two together.

By giving a place to this brief detail of facts, you will much oblige, sir,

Your obedient servant,

John Medd,

Surgeon to the Stockport Infirmary.

Stockport, Jan. 14, 1839.

[The case and diagram referred to in the P.S. would be very acceptable.—Ed. Gaz.]

ACUPUNCTURE.

To the Editor of the Medical Gazette.

Sir,

In the Philosophical Transactions, Vol. xiii., No. 148, published in the year 1683-4, there is an account of a book, viz. "*Wilhelme Ten Rhyne, M.D. Transisalano-Daventriensis. De Arthritide. De Acupunctura. Mantissa Schematica*," &c. London, 8vo. 1683; and from that work the following extract has been taken:—

De Acupunctura.—Concerning acupuncture, he says, "the needle is made long, slender, sharp, of gold, or at least of silver, with a wreathed handle. It to be conveyed either by the hand or a little mallet into the part, gently, a finger's breadth or more, as the case requires, and to be held for the space of thirty breathings (if the patient can bear it), otherwise repeated punctures are rather used. The puncture must be made when the party is fasting, deeper in a great than in a less disease—in old than in young men—in grown persons than in those that are lean and tender—in fleshy parts than in nervous. The needle is chiefly used in diseases of the head and lower belly, and is applied to the head in headaches, lethargies, convulsions, epilepsy, diseases of the eyes, &c. &c.; to the abdomen in colic, dy-

sentery, want of appetite, hysterical disorders, surfeits, pains of the belly and joints, obstruction of the liver and spleen, &c. &c. The womb itself may be perforated (the Japanese affirm), and the fœtus wounded, when its motions are enormous, and threaten abortion. In these cases the needle must be applied to the part whence the distemper arises—to the stronger in the back, to the weaker in the abdomen. Where the pulse scarce is perceived, there the puncture must be made in the armes, a little beside the veines. The chirurgeons keep by them images, wherein all parts of the body proper for the needle are designed by markes. The author himself was an eye-witness to the use of this puncture in a souldier, who, being afflicted with violent disorder of the stomach, and frequent vomiting at sea, suddenly relieved himself by pricking a thumb's-breadth deep into four different places about the region of his pilorus."—P. 232.

I may add, that plates of the "images" above-mentioned may be seen in the work of W. Ten Rhyne and in Kuempfer's History of Japan, and also of the needle employed.

In speaking of dropsy, W. Ten Rhyne says, "Acu scrotum pertunditur aqua suffarctum, ita refert Tulpius (Observat. 39, lib. 2), de quodam hydropico, cui utraque scroti (quod ad virilis capitis magnitudinem prope accedebat) pars, vitatis curiose venarum surculis, acu argentea adaperiebatur," &c. He likewise mentions another disease of the testicle to which the needle was applied, "testiculorum inflationi," and explains in a note that this differs from the above of Tulpius—"enimvero differt haec acupunctura ab illa, cujus ex Tulpio memini." Now as Thunberg informs us that hydrocele is a common disease in Japan, it is extremely probable that that complaint is meant. Thunberg, in the 4th volume of his Travels, says, "The senki colic, which proceeds from the use of sacki or rice-beer, attacks a great number of people, and likewise strangers who reside any length of time in the country. The pain is violent and intolerable, and often leaves swellings behind it in different parts of the body, and is especially productive of hydrocele."

I send you these exracts with a view to set at rest the question of priority between your correspondent at Gravesend and Professor Graves, of Dublin, and in the hope that when these gentlemen have perused them and the works from which they have been taken, will be disposed, in imitation of high example, to drop the "appropriation clause."

I remain, sir,
Your obedient servant,
LECTOR.

London, Jan. 21, 1839.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Principles of General and Comparative Physiology, intended as an Introduction to the Study of Human Physiology, and as a Guide to the philosophical Pursuit of Natural History. By WM. B. CARPENTER, M.R.C.S. &c., and Lecturer on Forensic Medicine in the Bristol Medical School. London, 1839. 8vo. pp. 478 and xii.

THIS is an admirable work, and will give Mr. Carpenter a high rank among the cultivators of natural philosophy. The first part consists of an introduction on organized structures, containing preliminary remarks, observations on organized structures in general, an account of the elemenary structure of vegetables and animals, and of the transformation of tissues, with a general view of the vegetable and animal kingdom, and an account of the symmetry of organized structures.

We then come to the body of the work. Book the first is dedicated to general physiology, and is divided into four chapters, treating of the nature and causes of vital action, of vital stimuli, of the general laws of organic development, and of the functions considered generally. The second book treats of special and comparative physiology, and is divided into thirteen chapters, on the ingestion and absorption of aliment, the circulation of nutritive fluid, interstitial absorption, the nutrition and formation of tissues, respiration, the exhalation of aqueous vapour, the secretions in general, the evolution of heat, light, and electricity, the reproduction of organized beings, the subordinate laws regulating reproduction, the sensible motions of living

beings, the functions of the nervous system, and the marks of design in organized structures.

The following extracts will give but a faint representation of the excellence of Mr. Carpenter's treatise, as we have been obliged, especially in the last three quotations, to curtail them of their fair dimensions, and to consult rather our own limits than the completeness of the subjects:—

"208. Another law, propounded by Cuvier, and supported by other authors, is that of *the harmony of forms*, or the *co-existence of elements*. It implies that there is a specific plan, not only for the formation, but for the combination of organs; that there is a constant harmony between organs apparently the most remote; and that the altered form of one is invariably attended with a corresponding alteration in the others. That this statement is true as far as it goes, no one can deny; and the researches which have been based upon it have been most successful in repeopling the globe, as it were, with the forms of animals which have long been extinct, but which can be certainly predicated even from minute fragments of them. A general comparison of the skeleton of the carnivorous with that of a herbivorous quadruped, will shew the manner in which this inquiry is pursued. The tiger, for example, is furnished with a cranial cavity of considerable dimensions, in order that the size of the brain may correspond with the degree of intellect which the habits of the animal require. The face is short, so that the power of the muscles which move the head may be advantageously applied. The front teeth are large and pointed; and by the scissors-like action of the jaw, they are kept constantly sharp. The lower jaw is short, and the cavity in which its condyle works is deep and narrow, allowing no motion but that of opening and shutting; the fossa in which the temporal muscle is imbedded, is very large; and the muscle itself is attached to the jaw in such a manner as to apply the power most advantageously to the resistance. The molar teeth are sharp, and adapted for cutting and tearing only. The spinous processes of the vertebræ of the back are very strong and prominent, giving attachment to powerful muscles for raising the head, to enable the animal to carry off his prey. The bones of the extremities are disposed in such a manner as to allow the union of strength with freedom of motion; the head of the humerus is round, and the fore-arm has the power of pronation and supination, indicated by the character of the articular surfaces. The toes are separate, and armed with claws, which are retracted when not in use by a special apparatus that leaves its marks upon the bones. On the other hand, in the conformation of the herbivorous quadruped, we are at first struck with the diminished capacity of the cranium, and the size of the bones of the face. The jaws are long, and have a great degree of lateral motion, the glenoid cavity being broad and shallow; and whilst the pteregoid fossa, in which the muscles which *rotate* it are lodged, is of large size, the temporal fossa is comparatively small, no powerful *biting* motions being required by the nature of the food or the mode of obtaining it. The front teeth are fewer and smaller; but the surfaces of the grinding teeth are extended, and kept constantly rough by the alternation of bone and enamel. The extremities are more solidly formed, and have but little freedom of motion, the shoulder being scarcely more than a hinge-joint; the toes are consolidated and inserted into a hoof, which is double or single, according as the animal ruminates or not. The whole body is heavier in proportion, the nutritive system being more complicated; and the muscles which enable the tiger to lift considerable weights in his mouth, are here necessary to support the weight of the head itself."

"397. The various provisions which are made for the respiration of such insects as inhabit the water are of a nature too interesting to be passed by. In those aquatic larvæ which breathe air, we often find the last segment of the abdomen prolonged into a tube, the mouth of which remains at the surface while the body is immersed. The larvæ of the gnat may often be seen breathing in this manner, which calls to mind the elevation of the trunk of the elephant when crossing rivers that entirely conceal his head and body. Sometimes this air-tube, which is to be regarded as a prolonged spiracle, is several inches in length, and its mouth is furnished with a fringe of *setæ* (or bristles), which entangle bubbles of air sufficient to maintain

respiration when the animal descends entirely to the bottom. The large tracheæ proceeding from this tube convey the air through the body in the usual way. Most aquatic larvæ which are unpossessed of such an air-tube, have their spiracles situated only at the posterior extremity of the body, and may be seen apparently hanging from the surface, whilst taking in the necessary supply. All perfect insects being adapted to aerial respiration only, many curious contrivances may be witnessed among such as inhabit the water, for carrying down a sufficient supply of oxygen to aerate their blood whilst under the surface. Some inclose a large bubble beneath the *elytra* (wing-cases), which, not being closely fitted to the exterior of the body, leave a cavity into which the spiracles open. Others have the whole under surface of the body covered with down, which entangles minute bubbles of air in such large quantity as to render the insect quite buoyant, and to oblige it to descend by creeping along the stem of a plant, or by a strong muscular effort. A very beautiful contrivance for a similar purpose is that of the diving spider, which remains for a considerable period under water by means of a reservoir that it constructs of silken thread agglutinated together, open at the bottom like a diving-bell, and attached to neighbouring stones or plants, and which it gradually fills with air by carrying down successive bubbles beneath its body. In this habitation it spends the winter in a state of partial torpidity, and the quantity of air it has enveloped in this curious manner is sufficient to maintain its respiration."

"408. The transition which has already been described, as occurring between the class of fishes and that of reptiles, and as being manifested not only in the permanent and complete forms, but during the progress of the development of individual organs, is no where more beautifully indicated than in the respiratory apparatus. All of the order *Batrachia* (otherwise called Amphibia), when young and imperfect, inhabit the water solely, and are in fact *pro tempore* fishes. Their organs of respiration are of course formed on the aquatic type, consisting of branchiæ; and, in their early development, they undergo the same change with those of fishes. In all instances they are at first external, hanging like tufts from the neck; and this state continues in the Proteus' Siren, and other species of the family of *perennibranchiate* amphibia (which retain their gills through life). In those, however, whose development proceeds further, as frogs, salamanders, &c., they are subsequently more or less inclosed by a fold of the skin, which forms a membranous valve, analogous to the bony orperculum of fishes. In frogs, the branchial cavity thus formed is closed completely on the right side, and the water which passes into it is ejected through the opening that remains in the left. As the tadpole advances towards the final change which is to convert it from a fish into a reptile, the gills entirely disappear, and lungs are developed, by which it breathes for the remainder of its life. These lungs are not, however, minutely subdivided like those of birds or mammalia; a large part of their cavity is simple; and the appearance of partitions is almost restricted to the top. It appears as if, in the family of perennibranchiate amphibia, the development had been checked just at the period of the transformation; for we find their *permanent* form exactly corresponding with that which is *transitory* in those that undergo a complete metamorphosis, and resembling that which has been artificially rendered permanent in the latter by the due regulation of the vital stimuli. It is not a little curious that the habitation of the least developed of these animals, the *Proteus*, subjects it to exactly the same conditions as those by which Dr. Edwards found that he could retard the development of the frog; and, until analogous species were found elsewhere, it was believed to be the larva of some more perfect reptile."

Evolution of Light in Animals.

"474. A large proportion of the lower classes of aquatic animals possess the property of luminosity in a greater or less degree. The phosphorescence of the sea which has been observed in every zone, but more remarkably between the tropics, is due to this cause. When a vessel ploughs the ocean during the night, the waves — especially those in wake, or those which have beaten against her sides—exhibit a diffused lustre, interposed here and there by stars or ribands of more intense brilliancy. The uniform diffused light is partly

emitted by innumerable minute animalcules which abound in the waters of the surface; and these, if taken up into a glass vessel, continue to exhibit it, especially when the fluid is agitated. This phosphorescence continues only during the life of the animals; the addition of a little sulphuric acid to the water causes them to emit a very brilliant and sudden light for an instant, and it then ceases, in consequence of their death. All the *Medusæ*, especially those of tropical seas, appear to be phosphorescent; the light is emitted, particularly round the tentacula, during the movements of the animal; and it seems to proceed from a mucus secreted from the surface, which may continue to exhibit the same property for a time when removed from it. This mucus, which has a very acrid character when applied to the human skin, communicates to it a phosphorescent property; and when mixed with water or milk, it renders these fluids luminous for some hours, particularly when they are warmed and agitated. From this source it is probable that the diffused phosphorescence of the sea is partly derived, whilst the brilliant stars and ribands with which the surface is bespangled indicate the presence of the larger tenants of the deep."

We strongly recommend Mr. Carpenter's work to all who have leisure for the delightful subject of which it treats.

MEDICAL GAZETTE.

Saturday, February 2, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

QUACKERY.

THE author of the "Exposition of Quackery," on which we commented in our last article, has two great merits, which will certainly be appreciated by the public, and, we hope, by the profession also. The first of these claims to approbation consists in his tolerance. He does not demand the establishment of a new inquisition to examine into the medical creed of the community, and punish those who believe in antibilious pills. He does not propose to force heretics to be vaccinated or revaccinated, nor does he insist on fining those heterodox printers who puff quack medicines in newspapers — a proposal which has been lately made in this country. In fact, our brother, Caleb Ticknor, has sense enough to see that this is the age of good-humour and toleration; that Morisonians, and Muggletonians, and Cameronians, and Eadyarians, are all at liberty, within very large limits, to play their fantastic tricks after their own fashion. The limits, however, though wide, may yet be passed; and as the religionist is not permitted to seize his neighbour's property, under pretence that a community of goods forms part of his creed; so the quack is not allowed to put his patient to death with a drachm of arsenic, under the pretext that this is his style of practice. The case of Samuel Thompson, who destroyed Ezra Lovett with repeated doses of the Lobelia, would seem to come under the latter category, and to have been a proper object of punishment.

Dr. Ticknor, indeed, is so indignant at the escape of the destroyer, who was acquitted of murder, that he wishes for a change in the law. "The sovereign people, the makers of laws, owe it to themselves, to their safety, to provide enactments making it penal for such men thus to sacrifice life." But surely all this has been amply provided for already. A portion of the sovereign people, in the shape of a jury, gave it as their opinion that Thompson had not killed Lovett wittingly, and was consequently not guilty of murder: why he was not convicted of manslaughter does not appear. It certainly was not from any defect in the law, though it might be from the unwillingness of the sovereign people to put it into execu-

tion. The jurymen might possibly intend some day to try the virtues of the Lobelia in liberal doses; they might think that the drug was the better for not passing through the doctor's hands, as the poet relished the ordinary weed the more for not having been visited by the tax-gatherer:—

"O! let me taste thee unexcised by kings!"

The verdicts of juries enable the impartial observer to form a pretty safe prognosis of what would happen if the subject were mooted in the legislature; an inquisition being petitioned for by some of our zealous brethren. See that county member suffering from gout and Nequam's specific—that younger brother with a poor man's plaster round his attenuated chest—that lusty trader with a sixteenth share of Blogg's opodeldoc; would they not all vote for throwing the petitiou under the table? Nay, more, would not the disinterested exclaim, that a petition from the doctors to have quacks put down by force was too much like a request from the established church, that pains and penalties might be inflicted on Jumpers and Irvingites; and that as the latter kind of intolerance had been given up, it was too much to ask for a renewal of the former?

The second point for which Dr. Ticknor will be praised, at any rate by the laity, is the ample manner in which he sets forth the faults of his professional brethren, considering them, and perhaps with justice, as among the causes of quackery. How far these errors are to be attributed to medical practitioners themselves, and how far they may be considered as unavoidably arising from the present imperfect state of our art, is another question.

Among these imperfections are what the author calls "exclusiveness and ultraism." Thus, Broussais teaches us that a gastro-enteritis is at the bottom of about every disease, and that leeches, with gum-water and *lavements*, are the only proper treatment. When carried to its extreme this theory might, of course, be put in practice by any body, and one might imagine that the simple layman would be induced to think himself equal in leeching to the experienced practitioner. We have not heard, however, of this particular folly having been tried by the uneducated; but the existence of such a theory, with its bold contempt of the results of former practice, must necessarily tend to lower public faith in professional skill.

To show the effects of being "spell-bound by the charms of an exclusive theory," Dr. Ticknor gives the case of a child labouring under an affection of the brain. It had been judiciously treated by "a not obscure member of the profession" with little benefit, until he declined doing any thing more, telling the parents that it must inevitably die. It was proposed in consultation to blister the neck, and give calomel, but he objected to both; to the former, because the irritation would be transmitted to the organ already affected; and to the latter, because the calomel would irritate the mucous membrane of the alimentary canal, and also affect the brain by sympathy. The Broussaist accordingly gave up the case to the second practitioner, who cured it, contrary to the rules of the physiological school. Whatever may be thought of the blister, there can be no doubt that the fear of irritating the bowels in so grave a case of cerebral disease certainly illustrates the "exclusiveness and ultraism" censured by Dr. Ticknor.

Then come your staunch bleeders. One of those sanguinary fellows, who has treated four hundred cases of a disease;—affirms that he bled early, largely, and repeatedly, and that he lost but few patients, and those from not

having bled them enough. Our readers will recollect that this was the only reason that Sangrado ever lost a case. When a patient died, it was from not having been bled enough, nor drunk enough of warm water.

Here is a picture or caricature of a stark-mad bleeder:—

"The inveterate theoretical bleeder will bleed in the most opposite states of the system; he will bleed to check the circulation when it is too rapid, and to subdue febrile excitement; when the circulation is depressed he will bleed to restore it, and to increase the heat of the body when it is below the healthy standard; he draws blood to subdue reaction and to excite it; he calls bleeding a sedative, and again he says it is a stimulant; with such a man bleeding is a *sine quâ non*; it is almost food and drink, and is about equivalent to vomiting and purging: it is refrigerant in summer, and calefacient in winter; a hobby which he rides either rough or smooth shod."

The anti-bleeders form another sect. A man of this kidney will tell you that he treated the same number of cases of the same disease, in which the venesector was so lucky, but with an exactly opposite result; when he bled early, largely, and repeatedly, the patient almost always died, but when the treatment was different, they nearly all recovered.

Another set of practitioners have a great love of emetics, and small fear of gastro-enteritis; others again think they can never be too liberal in the use of cathartics. They give their favourite remedies till the abdomen becomes painful and distended, and then continue them, in order to cure the evil which they have caused. In short, "the patient is finally purged out of existence," while the well-meaning but mistaken doctor never even suspects the possibility of his having made a mistake. Dr. Ticknor states, that he has seen erysipelas, transferred from the skin to the bowels by violent purgatives, prove fatal in twenty-four hours.

Others again are unreasonably fond of some particular article of the materia medica, to which others are as unreasonably averse; so that *laudatur ab his, culpatur ab illis*, may be applied to the whole catalogue, from *absinthium* to *zingiber*. This is carried so far, that, according to Dr. Ticknor, some medical men of note assert that alcoholic drinks are always injurious, and therefore never to be given to the sick. So frantic an assertion has never been made, we believe, on this side of the Atlantic; but if any one should be hardy enough to propose that wine should be expunged from the list of stimulants, we would humbly propose that his name should be expunged from the list of physicians, surgeons, or apothecaries.

Another failing by which medical men indirectly encourage quackery, is want of education. A full-grown, thorough-bred M.D. may be manufactured in a wonderfully short period, the fortunate possessor of the diploma sometimes knowing little but the rudiments of the profession, and those obtained at an astonishingly cheap rate. Such a doctor is often not "able to put a sentence together agreeably to the rules of orthography, etymology, syntax, or prosody."

Such are some of the errors which Dr. Ticknor lays to the charge of our common profession; let us hope that his strictures are less applicable on this side of the ocean, though we are ready to confess that his book cannot be read without profit either by doctor or layman. In a word, the great moral of his work is, that the quack is sometimes preferred to the well-informed practitioner, but that unfortunately too often the choice wavers between him and the ill-informed one.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Jan. 22, 1839.

THE PRESIDENT IN THE CHAIR.

On the Persistent Nature of the Dental Capsule; with Physiological and Pathological Observations. By ALEXANDER NASMYTH, Esq.

THE author begins by observing, that of the three stages into which the period of the growth of the teeth has been divided, namely, the follicular, the saccular, and the eruptive, it is his intention in the present communication to allude particularly to the eruptive stage only. Having been induced to investigate this stage very attentively, he is convinced that the capsule of all teeth is persistent; and that instead of its being a deciduous membrane, it is one whose functions continue throughout the life of the tooth. The author was led to attend to this fact many years ago, from having observed, while engaged in some very minute anatomical inquiries, detached portions of membrane floating from preparations of human teeth which had been subjected to the action of acid. By care and much practice he was at length enabled to demonstrate these membranes to be separated from the external surface of the enamel, being continuous with the membrane covering the fang, and this again with the pulp included in the chamber of the tooth; in fact, that this membrane was the crown portion of the original capsule of the tooth. The author's attention having been diverted from this point at the time by other matters, was again forcibly attracted to it, in pursuing some investigations for the purpose of verifying the microscopic observations of Professor Retzins, Purkinge, Müller, and others, the results of which he is preparing to bring before the profession. He concedes to Retzins and his contemporaries in Germany, the merit of having revived and made known the existence of an osseous investment, similar to the crusta petrosa, on the external surface of the fangs of human and many similar teeth, but which in such teeth is expressly described as ceasing where the enamel commences. As these substances must have derived their origin from the capsule or investing sac, and as the cementum on the crowns of the teeth of those animals that are endowed with it, originates in the same membrane, the author inferred that the membrane which he had disengaged from the surface of the crown was no other than a production of the capsule itself.

After describing the structure of the capsule, the author proceeds to say, that during the growth of the enamel, the inner membrane retains a considerable degree of thickness, and that where the extent of enamel is limited, and its growth perfected, a cohesion of the internal layer takes place to its surface, and the exterior continues to be firmly attached to the elongating fangs, producing an osseous deposit over it, and enclosing its root. When teeth are subjected to the action of dilute acid, the decomposition being more complete upon the enamel through the adherent membrane than upon the neck of the tooth, its detachment is more speedily accomplished; but being very thin where joined to the neck, it is easily ruptured in human and other analogous teeth. It is, however, easy to obtain it in continuity in many of the lower animals. This capsular covering, which it is by no means difficult to demonstrate, continues throughout life, except it be worn away by irritation. It would be impossible, within the limits of an abstract, to allude even briefly to all the confirmations of these anatomical facts, which were illustrated by an extensive series of preparations and drawings, not only of natural but also of morbid structure.

In concluding his interesting paper, the author expresses an opinion that the sketch which he has given will serve to reconcile many contending opinions concerning the vitality of the teeth. In the present state of our knowledge he thinks that we can only allow a very low degree of vitality to the enamel and ivory of the teeth, and that the phenomena of disease dwelt upon by those who maintain a higher order of vitality in those textures are due to the vital powers of the different portions of the persistent capsule.

Case of the accidental Administration of Forty Grains of the Extract of Belladonna, by Oscar Clayton, Esq. Communicated by JAMES CLAYTON, Esq.

The author's motive in relating the above-named case, the subject of which recovered from the effects of the poison, was, that the order of succession of the symptoms differed from that described by Dr. Christison, for in it sopor preceded the delirium, which did not come on for six hours after the administration of the poison, whereas the reverse is commonly the case. The author considers it also worthy of remark, that the pulse, which was 160 half an hour after the poison was taken, fell in twenty hours to 58, and that it varied from 160 to 120 during the sopor, but did not reach more than 95 during the delirium.

WESTMINSTER MEDICAL SOCIETY.

January 26, 1839.

FRED. HALE THOMSON, ESQ. CHAIRMAN.

Purgatives in Epilepsy.—Is Epilepsy a Functional or Organic Disease?—Use of Nitrate of Silver.

DR. CHOWNE opened the business of the evening by relating a case of epilepsy, in which mercurial purges had been of great benefit. The subject of the disease was a girl of 17, who had suffered from the malady for years. The symptoms were remarkably well defined, and the fits occurred two or three times a week when the doctor first saw her. Purges of calomel and colocynth were given at regular periods; the frequency and violence of the attacks abated, and in about three months the paroxysms had become very rare. He did not consider the disease as radically cured, but he thought the relief signal. The character of the dejections had gradually improved; at first they were extremely offensive, but now they were quite natural.

Mr. Ferral had had under his care a great many cases of epilepsy, as well functional as connected with organic lesion. In all cases he had found sharp purging useful; but in cases which, there was every reason to suppose, were simply functional, he had used with much good effect the sulphate of zinc as a tonic. He recollected in particular the case of a young woman in which the combined purgative and tonic treatment had been perfectly effective. He had made post-mortem inspections of certain fatal cases, and discovered in many morbid conditions of the brain. He was not, however, prepared to say, that the organic alterations occasionally accompanying this malady, were direct consequences of the epileptic action, or, in fact, any way connected with it. It was too much the practice of pathologists to consider whatever the scalpel developed as *causes* of the disease. The truth was, these morbid changes could at most be but *effects*.

Dr. A. T. Thomson had been in the habit of treating epilepsy by removing any irritating matter that might exist in the alimentary canal, and afterwards by the use of tonics, to diminish the mobility of fibre characteristic of the disease. At least such was his treatment in functional epilepsy. He had tried many tonics, but he had recently employed one in some cases at the University College Hospital, which was more efficient than any he had ever known. It was the *Artemesia vulgaris*, in the form of powder, and in doses varying from half a drachm to a drachm and a half, taken three times a day.

Mr. Gregory Smith regretted that diseases were not treated more uniformily upon pathological principles. He had inspected the bodies of many persons who died from epilepsy, and he had invariably found traces of organic lesion. He remembered at the moment three cases: in the first case, an adult, who had suffered for many years, he found the calvarium over the right hemisphere thickened, as well as the subjacent dura mater and the superincumbent pericranium. In another case, the sella turcica was hypertrophied. In both these instances the patients had severe headache preceding the paroxysms. But the third case exceeded the others in interest. The patient was a child exceedingly precocious. He became affected with epileptic fits, and lost almost entirely his hearing and his sight. Upon removing the calvarium, the brain bulged out of the cranium like an elastic body. The convolutions were compressed. The medical man attending with Mr. Smith, upon seeing the brain project, immediately exclaimed, "I see there is fluid in the ventricles," but upon cutting into them they were found quite empty. There was a dryness of the entire mass of brain. He supposed the case was an example of what a few pathologists had described as *hypertrophy of the brain*.

Mr. Streeter was surprised that Mr. Smith should throw a doubt upon the existence of the serious malady designated hypertrophy of the brain. The late Dr. Sims had published several well-defined cases, and he (Mr. S.) had witnessed some cases in his private practice; he thought medical men should be vigilant in looking out for these cases among children. They were frequently to be found amongst precocious children. In these cases the inordinate activity of the brain must be kept down. The child should be deterred from intellectual, moral, or physical excitement. He had known cases terminate not unfrequently in apoplexy, in which predicament what was called the antiphlogistic treatment became proper; but he had also met with cases of an ambiguous nature, where apoplexy did not exist, though some of its symptoms were present; these cases he had called *epileptic coma*; it was important to distinguish them from real apoplexy, as the depleting treatment would be injurious in them. He had no doubt these two affections were often confounded, and that death was an occasional result of mistaken views.

Dr. C. J. B. Williams had observed that Dr. A. T. Thomson had drawn a distinction between the treatment of func-

tional and organic epilepsy, and intimated that the tonic treatment would be improper in the latter. He had seen some cases in which epilepsy co-existing with organic disease, was successfully treated with tonics. He recollected several which he had seen treated by Dr. Macleod, at St. George's Hospital, where the nitrate of silver, in doses of two grains, had been used three times a day for three weeks, and under its use the tranquillity of the muscular system had been greatly promoted. In one case, the epileptic fits disappeared for five months, but ultimately the patient died, and a large hydatid was found to fill up nearly the whole of one hemisphere of the brain. He had himself used with benefit the sulphate of zinc, and other tonics, in epileptic affections, arising from or concomitant with organic lesions. He had witnessed some cases of *hypertrophy of the brain*, and he thought the late Dr. Sims was entitled to the gratitude of the profession for the interesting statistical details he had collected respecting this formidable malady. Dr. Sims's was a course of investigation which well merited being followed up. He (Dr. W.) had found after death, in cases of cerebral hypertrophy, that the convolutions presented an appearance of having been compressed. The brain was unusually dry, no fluid being found in the ventricles, and the sinuses and blood-vessels being nearly void of blood.

Mr. Roderick said, that in all the cases he had seen terminating in death through paralysis or apoplexy he had found tumors in the brain: in one case, occurring recently, he discovered a large tumor in the nodus cerebri, and the medullary substance surrounding it was *ramollie*.

Mr. Ferral had frequently witnessed in epilepsy a nodulated appearance of the medullary part of the brain. There was a scarcely perceptible discolouration, but the touch clearly demonstrated the difference of consistence in the nodules, and in the surrounding substance.

Dr. A. T. Thomson had seen cases of hypertrophy of the brain, but in all of them he found amaurosis to a greater or lesser extent an accompaniment. He thought epilepsy generally either led to or arose from organic change.

Dr. James Johnson thought that if any disease could be called purely functional, that disease was epilepsy. He had known this disease to exist for twenty and thirty years, and then be cured. At the present time a gentleman was living in the vicinity of Belgrave Square, perfectly well at 76 years of age. He had had severe epilepsy for twenty years, but for the last ten years he had been quite well, having the *mens sana in corpore sano*. Another patient residing in Sloane Street, who had suffered for thirty years, died some time ago, and was examined by Dr. Johnson and Mr. H. J. Johnson. A most careful inspection was made of the brain, but not a trace of disease could be found. Where organic lesions were discovered, the patients died from paralysis or apoplexy, and not from epilepsy. He (Dr. J.) always resorted to free purging in this disease, and the use of tonics. The best tonic was the nitrate of silver, which might be given to almost any amount of dose. He had frequently prescribed as much as *twelve* grains in the twenty-four hours, for three and four months together. In women he continued its exhibition for three months, and in men for four months. Within that period there was no chance of blueness of the skin occurring. The women were rather more liable to this discolouration than the men. In the patient alluded to as residing near Belgrave Square, the complexion was of a blue tinge, but the patient had taken the argenti nitras for two years. He was attended by a late physician, who prescribed for him the argenti nitras with much benefit; but the physician dying, the patient continued to employ at his own discretion the remedy from which he was deriving relief. His skin was consequently discoloured; but the patient was well contented to exchange his sufferings for a blue skin. He (Dr. Johnson) had no doubt that the nitrate of silver might, after a time, be used in as large doses as carbonate of iron.

Dr. A. T. Thomson was astonished that Dr. Johnson should consider that all cases of epilepsy were purely functional. What was to be said of epilepsy arising from spiculæ of bone irritating the brain, and from various alterations of structure? Was it not notorious that idiotcy, and mania, and paralysis, followed frequently in the train of epilepsy.

Mr. Smith would inquire of Dr. Johnson what species of epilepsy that was which occasionally attended the infliction of injuries of the brain, if not of an organic nature?

Dr. Johnson said those affections were simply convulsions, and no more like epilepsy than puerperal convulsions were.

Mr. Smith said he did not know any distinction, as regards symptoms, between idiopathic epilepsy and convulsions following injury of the brain.

Dr. Johnson said the distinction consisted in the idiopathic origin, in the course of the symptoms, and in the lethargic termination. "A young person, in perfect health, suddenly became conscious of the sensation called the *aura epileptica*, and fell down in a fit. There was no time, in such a case, for any organic cause to be generated. In another case epileptic convulsions prevail for a long

series of years, the patient dies, and no morbid changes are to be seen. In a third case the patient suffers for twenty years, and then recovers. In all these cases the symptoms are as perfect as can be. It is evident, then, that the disease may run through its course unsupported by any alteration of structure. In cases where the disease is coincident with organic change, the union is not essential. Organic disease of the brain oftener exists without epilepsy than with it. Do spiculæ of bone always produce epilepsy? Certainly not. If the spiculæ were the cause of the epileptic convulsions, these convulsions would never cease as long as the spiculæ projected against the brain. The spiculæ and the organic changes, where such exist, can only be considered as occasional or exciting causes, which call into action the essential *vis insita* of the malady."

After a few general observations from Mr. Chance, Mr. Snow, Dr. Peregrine, and Mr. Costello, the meeting broke up.

IDIOS.

HEPATIC ABSCESS OPENING INTO THE STOMACH

BY THREE PERFORATIONS; ALSO INTO THE PERICARDIUM.—PERICARDITIS.—PLEURITIS.

[THE last No. of the Dublin Medical Journal contains several very interesting papers: of these we select the following very rare, if not unique, case, slightly abbreviated, from "Observations on the Treatment of various Diseases," by Dr. Graves.]

The following case contains many particulars of extreme interest, among which I beg to direct the reader's attention more especially to the physical phenomena produced by the simultaneous presence of air and fluid in the pericardial sac, no instance having been hitherto recorded where similar symptoms, arising from ulceration extended to that sac, have been observed.

In order not to lengthen the case too much, I have omitted the details of treatment; they consisted of local depletion in the first instance by means of leeches, and an attempt to mercurialize the system, which attempt failed, because suppuration was in all probability established before it was made. My experience confirms the assertion made by Annesley and other writers on diseases of tropical climates, that it is impossible, or at least very difficult, to make the mouth sore to salivation, once the formation of abscess in the liver commences. Of course no practitioner who is aware that hepatic suppuration has actually set in will continue the exhibition of mercury; it then becomes injurious. In the following case, when suppuration was ascertained, poultices were applied, and various astringents were subsequently employed, in vain, to check the diarrhœa.

Anne Walker, æt. 25, spinster, of spare habit and nervous temperament, on Thursday night, 13th Sept., without any assignable cause, was seized with a sudden and violent pain in every part of the abdomen, extending to the loins and back, unpreceded and unaccompanied by any other complaint; was immediately bled, but without much relief; continuing in the same state, venesection was repeated the next morning with more effect; hot stupes were also applied. The entire of the 14th (yesterday) she remained in excruciating agony, applying the stupes, and obtained but little ease. She now lies on the back, with the legs drawn up towards the body, unable to turn to either side, or stir in the least in the bed, without an insupportable increase in her complaints: the pains she describes as of a lancinating nature, sometimes resembling the pricking of a number of pins, commencing at the epigastrium, shooting downwards to the pubes, and extending laterally into each hypochondriac and lumbar region.

Since the commencement of the attack she has been deprived of sleep; much annoyed with constant thirst, and a nauseous, disagreeable taste in the mouth. Her countenance is now anxious and distressed; skin moist, and covered with slight perspiration; tongue white and moist; pulse 128, small and somewhat wiry: respiration 54; no morbid phenomenon can be detected in the chest; heart's action rapid, and sounds natural; the abdomen is tense, hard, and exquisitely painful, the slightest degree of pressure causing much uneasiness; bowels free; urine passed in regular quantities.

In the right hypochondrium and epigastrium there is a considerable tumefaction, somewhat of a conical shape, affording, when pressed, a degree of elasticity and dulness on percussion; the pain produced in this part by pressure is very acute, whilst elsewhere it is comparatively slight.

19th.—The only part of the abdomen pained by pressure is that where the tumefaction was observed yesterday; it extends from below the ensiform cartilage to within a couple of inches of the umbilicus, also laterally, occupying a space between three and four inches; and to-day a sensation of fluctuation is communicated to the touch.

20th.—A violent purging commenced yesterday, and continued the entire night; stools numerous, eight or ten, liquid, and of a dark colour, each being attended with

griping and kneading; was much troubled with shiverings and pains in the back; her breathing is more distressed, and accelerated, 44 in the minute; pulse 132, small and hard; tongue moist. No change has taken place in the appearances of the abdomen.

24th.—There has been no return of the purging since the 21st; the perspirations are diminished, and her general aspect is improved; she now complains principally of pains in the back, continued and shooting upwards along the entire of the spinal column. When the tumor is now percussed, it emits a tympanitic resonance; the lower part of the left side also is very clear on percussion; cannot now detect the fluctuation observable on the 19th; the elasticity remains as before; pulse 116, soft and improved in strength; respiration 30.

29th.—The tumor in epigastrium is considerably diminished in size, percussion elicits, as before, a tympanitic resonance, but does not extend, as on previous days, to the right hypochondrium; her countenance is improved, and spirits not so depressed; breathing continues too free, and pulse rapid.

Oct. 1st.—Purging has returned, with griping pains in the abdomen, and numerous liquid stools.

2d.—Purging remains unchecked; the tumor in abdomen has altogether disappeared; no tympanitic resonance is now afforded by percussion.

6th.—Heart's sounds natural. Percussion and respiration over both lungs as in the healthy state: abdomen sunken and free from pain.

7th.—Bowels have been opened seven times within the last twelve hours. Pulse 120. Respiration 30.

9th.—Was attacked yesterday with acute pain in the cardiac region, and last night had a violent beating of the heart, also a burning heat below the left breast. She cannot recollect any cause to which she might attribute this. Her present state is extreme emaciation and debility, cheeks hollow, eyes sunken, countenance dejected, and spirits languid; her breathing remains accelerated, short, and distressed; the jugular veins in the recumbent posture turgid, but without pulsation; likewise those along the trachea.

Percussion over chest generally is clear, except at the inferior and middle portions of the left side. Respiration in these parts is feeble, elsewhere pure and loud: impulse of heart perceptible, but feeble. About half an inch distant from the lower edge of the mamma both sounds are confused, and a slight bruit de soufflet is audible; advancing to the right it increases in roughness, and below the mamma it becomes a complete creaking noise, accompanying both sounds of the heart, and is still louder between the sternum and breast; when pressure is applied it gradually increases these phenomena, and when considerable pressure is used, they are changed into a loud frottement, obscuring both sounds, the first especially; they are also rendered more distinct by holding the breath.

Abdomen smaller; purging stopped; pulse 130, small and compressible.

10th.—The phenomena are now audible as far as the middle of the sternum, over the cardiac region, and laterally, being in each place of the same character. The sound is between bruit de soufflet and bruit de scie, in a great measure masking the first sound and accompanying the second, which still retains its clearness. Immediately under the mamma, together with these sounds, but heard only occasionally, is a peculiar metallic click, affording the idea of some fluid dropping in or about the pericardium; it is removed when pressure is made over the heart, whilst the other noises undergo a thorough change; thirst urgent.

12th.—The irregular click, audible yesterday only at intervals, has now become a loud metallic ticking, audible at each stroke of the heart over those parts where the emphysematous crackling and other sounds were to be heard; it obscures all the phenomena hitherto noted, except a slight bruit de soufflet about the nipple of the left mamma. Impulse cannot be felt. Is sinking fast.

13th.—Died last night at 10 o'clock.

Autopsy twelve hours after death.—Percussion over the front of chest afforded no evident dulness; over the cardiac region it was clear. When the sternum was raised, both lungs were found collapsed; the left in particular, which was found compressed by a quart of sero-purulent fluid. Weak adhesions connected both lungs with the external pericardium; and their inferior lobes with the upper surface of the diaphragm. The pericardium appeared enlarged, and a small quantity of fluid could be felt.

The abdominal parietes being removed, the cavity of a large abscess was exposed, situated in the left lobe of the liver. Its form was circular, about eight inches in circumference, and bounded anteriorly by a portion of the parietes of the abdomen and ensiform cartilage. Its posterior wall was formed by the remaining solid part of the left lobe; whilst the diaphragm superiorly was in immediate connexion with it, and the falciform ligament served as a means of separation between it and the right lobe: its thin edge was over-

lapped by a portion of the stomach; and near the pyloric orifice was an ulcerated circular hole, with rounded and smooth edges, about three-quarters of an inch in diameter, communicating directly with the abscess. The stomach was intimately connected with the sub-surface of the left lobe by its concave margin; and near to its cardiac extremity were two other openings, one somewhat oval in shape, about half an inch in diameter, and connected with the abscess by means of a canal capable of admitting the tip of the little finger, and separated from the other by a thick band, evidently a portion of the stomach. This last perforation, or the one nearest the œsophageal extremity of the stomach, had no communication with the abscess. The surface of the abscess is irregular, presenting many depressions and elevations; its colour of a yellowish grey, its substance creamy, soft, and reduced by pressure into a pus-like fluid; when cut into, it is at least three-quarters of an inch in depth, but does not retain the same thickness in every part; beneath, the structure of the liver is visible, and in firm connexion with it the stratum of diseased substance, neither can it be separated from it.

Where the diaphragm and pericardium are united, is a perforation sufficiently large to admit the middle or ring finger, and opening directly from the abscess into the pericardium; the edges are ulcerated and uneven; and within the covering of the heart are about two ounces of yellow-coloured fluid mixed with flakes of lymph. The pericardial sac is increased to four times its natural thickness, but appears equally dense in all parts; its external surface is highly vascular; its interior is likewise inflamed, dotted with numerous red spots, in some parts about the size of a pin's head, and in others forming an arborescent appearance; the surface has in a great measure lost its natural glistening appearance, and looks uneven, being coated in parts with small portions of organized lymph; and generally, particularly towards the origins of the great vessels, with small, granular, semi-transparent bodies, resembling millet seeds, or the eruption sometimes seen in cases of rheumatic fever: its feel is quite gritty, but when these bodies are scraped off, the serous lining of the pericardia is apparent underneath.

The heart itself is of a light red colour, and its investing membrane is covered, like the pericardial sac, with those granular substances more abundant about the auricles and base of the heart. Both auricles are bound down to the substance of the heart, by means of strong, tough, and organized pieces of lymph.

Some tubercles scattered through the superior lobe of each lung. No adhesions existed between the peritoneum and intestines, or between these latter.

I am indebted to my talented and indefatigable clinical clerk, Mr. Thomas Moore, for the preceding report of the progress of this singular case, concerning which the following remarks appear necessary:—

1st. When the abscess burst into the stomach, the epigastric tumor which the abscess formed did not at once subside, but suddenly, from having yielded a dull sound on percussion, became tympanitic and clear; air from the stomach having found its way into the cavity, while the pus escaped.

2dly. The now tympanitic tumor seemed so exactly to resemble the stomach distended with air, that we were induced to pass a tube into the stomach, but it did not give vent to any air.

3rdly. In a few days the air also passed from the cavity of the sac; then all traces of the tumor entirely and unaccountably disappeared.

4thly. The diarrhœa was caused by the perpetual flow of fœtid and irritating matter from the abscess into the intestinal cavity.

5thly. No peculiar symptom, pain, or derangement of its functions, denoted the extensive ulceration of the stomach.

I shall revert to this subject after the details of the two following cases of ulceration of the stomach have been laid before the reader.

6thly. The inflammation spread by continuity of structure, from the abscess to the pleura and pericardium in the first instance.

7thly. Soon after the pericarditis thus formed had commenced, and at the time that its usual physical phenomena were clearly perceived, a new set of physical phenomena arose, dating from the moment the pericardium was perforated, and air entered its sac.

8thly. Although most intense generally peritonitis existed when the patient was admitted, yet no trace of general peritoneal inflammation were discovered on dissection.

9thly. It may be asked, why I had not recourse to an operation to let out the matter, as soon as fluctuation had become plainly perceptible in the hepatic tumor? My answer is, that the tumor formed so quickly, and seemed to tend to the surface so rapidly, that I thought it better to wait for a day or two, in order to render the operation safer, never anticipating that the matter could, in so short a time, find an exit by another channel.

MONTHLY LIST

OF

DRUGS ON SALE IN THE ENGLISH MARKET,

With their Prices and several Duties.

(From the Official Returns, January 22, 1839.)

	Price.			Duty.		Duty Paid.	
						In 1839 to last week	Same time last year.
	£ s. d.		£ s. d.	s. d.			
Aloes, Barbadoes, D.P. c	12 0 0	to	30 0 0	B.P. lb 0 2			
Hepatic (dry) BD..... c	5 0 0		14 0 0	F. lb 0 8		7,066	1,561
Cape, BD. c	2 7 0		——				
Anise, Oil of, German, D.P.... lb	0 9 6		0 9 6	F. lb 1 4		315	——
E. I. ..... lb	0 6 0		0 6 0	E. I. 1 4		——	——
Asafœtida, B.D. c	2 10 0		5 0 0	c 6 0		——	——
Balsam, Canada, D.P. ..... lb	0 1 3		0 1 4	lb 0 1		——	——
Copaiba, BD. ..... lb	0 4 0		0 4 6	c 4 0		24	13
Peru, BD. ..... lb	0 4 0		——	lb 1 0		——	35
Benzoin (best) BD..... c	25 0 0		50 0 0	c 4 0		2	4
Camphor, unrefined, BD..... c	10 10 0		——	c 1 0		13	31
Cantharides, D.P. ..... lb	0 5 3		0 5 6	lb 1 0		3,236	2,245
Caraway, Oil of, D.P. ..... lb	0 8 0		0 8 6	lb 4 0		106	——
Cascarilla or Eleutheria Bark, D.P.C.	3 10 0		——	lb 0 1		——	——
Cassia, Oil of, BD..... lb	0 6 6		0 6 6	lb 1 4		332	223
Castor Oil, East India, BD ..... lb	0 0 6		0 0 11	c 1 3		53	93
West I. (bottle) D.P. 1½ lb	——		——	——			
Castoreum, American ..... lb	0 17 0		0 18 0				
D.P. Hudson's Bay ..... lb	0 18 0		1 0 0	lb 0 6		243	77
Russian..... lb	none						
Catechu, BD. Pale c	1 8 0		——				
Dark	3 0 0		——	c 1 0		3,900	82
Cinchona Bark, Pale (Crown).... lb	0 2 0		0 3 6				
BD. Red ..... lb	0 2 0		0 4 0	lb 0 1		154	9,772
Yellow ..... lb	0 3 6		0 3 8				
Colocynth, Turkey ..... lb	0 2 6		0 4 0	lb 0 2		——	——
D.P. Mogadore ..... lb	0 3 0		——				
Calumba Root, BD. c	0 12 0		1 15 0	lb 0 2		——	——
Cubebs, BD. c	3 15 0		4 0 0	lb 0 6		3,917	2,663
Gamboge, BD. c	5 0 0		15 0 0	c 4 0		2	2
Gentian, D.P. c	1 4 0		——	c 4 0		128	2
Guaiacum, D.P..... lb	0 1 0		0 1 8	c 6 0		——	——
Gum Arabic, Turkey, fine, D.P... c	10 0 0		10 10 0				
Do. seconds, D.P. .. c	7 7 0		7 10 0	c 6 0		203	582
Barbary, brown, BD. c	2 0 0		——				
Do. white, D.P..... c	4 10 0		——				
E. I. fine yellow, BD. c	2 14 0		3 0 0	c 6 0		318	4
Do. dark brown, B.D. c	1 15 0		2 5 0				
—— Senegal garblings, D.P. c	3 6 0		——	c 6 0		1,250	459
—— Tragacanth, D.P. c	8 0 0		12 0 0	c 6 0		——	34
Iceland Moss (Lichen), D.P. .... lb	0 0 2½		0 0 3	lb 0 1		——	——
Ipecacuanha Root, B.D. ..... lb	0 1 9		0 2 0	lb 1 0		314	734
Jalap, BD. ..... lb	0 2 9		0 3 0	lb 0 6		2,628	2,942
Manna, flaky, BD. ..... lb	0 4 0		0 5 6	lb 0 3		1,458	616
Sicilian, BD. ..... lb	0 1 7		——				
Musk, China, BD. ..... oz	1 0 0		1 8 0	oz 6 0		76	304
Myrrh, East India, BD. c	5 0 0		14 0 0	c 6 0		4	——
Turkey, BD..... c	2 0 0		11 10 0				
Nux Vomica, BD..... lb	0 8 0		0 9 0	lb 2 6		——	——
Opium, Turkey, BD. ..... lb	0 14 6		——	lb 1 0		2,688	1,911
Peppermint, Oil of, F. BD..... lb	1 0 0		——	lb 4 0		38	——
Quicksilver, BD. ..... lb	0 3 8		——	lb 0 1		6,078	8,825
Rhubarb, East India, BD..... lb	0 2 6		0 4 0	lb 1 0		2,464	2,230
Dutch, trimmed, D.P. lb	0 3 6		0 5 0				
Russian, BD. ..... lb	0 8 3		——	F. lb 1 0		543	730
Saffron, French, BD. ..... lb	0 18 0		——				
Spanish ..... lb	0 19 0		1 0 0	lb 1 0		99	171
Sarsaparilla, Honduras, BD..... lb	0 1 0		0 1 9	lb 0 6		9,270	6,436
Lisbon, BD. ..... lb	0 2 0		——				
Scammony, Smyrna, D.P..... lb	——		——				
Aleppo ..... lb	0 18 0		1 0 0	lb 2 6		856	1,001
Senna, East India, BD. ..... lb	0 0 3		0 0 4	E.I. lb 0 6		5,963	1,834
Alexandria, D.P..... lb	0 1 9		0 1 10				
Smyrna, D.P. ..... lb	0 1 0		0 1 3	Other sorts 0 6		15,751	7,594
Tripoli, D.P. ..... lb	0 1 0		0 1 3				

‡§‡ BD. In Bond.—c. Cwt.—B. P. British Possessions.—F. Foreign.—D. P. Duty paid.

MR. BATTLEY'S PHARMACEUTICAL PREPARATIONS.

To the Editor of the Medical Gazette.

SIR,

I OBSERVE in the last number of your journal a report of the proceedings of the Westminster Medical Society of the 19th instant, in which it is stated, that on that occasion my conduct was "strongly" animadverted on; and I am accused of practising "mysticisms on the public," with reference to my methods of preparing medicines.

In answer to this attack upon me, I desire to state the following facts, beyond which I shall not notice it. The laboratory in which my medicines are prepared is open to the profession, who have been repeatedly invited to visit it for many years past, from seven o'clock in the morning to eight o'clock at night.

Members of the profession do frequently visit it, and also medical students in great numbers, in proof whereof I may state, that the book in which each student enters his name now contains "fifteen hundred and thirty-four" signatures, besides one similarly signed, which has been lost.

All my processes are carried on in the laboratory, and the method of each process is recorded in a journal there kept for the inspection of visitors. Moreover, every medicine not pharmacopœial prepared by me, is accompanied by printed directions for its exhibition (some of which I enclose,) and a reference to the page in the laboratory journal wherein the process of making it is recorded, and which journal may be consulted by any one who will take the trouble to do so.—I am, sir,

Your obedient servant,

RICHARD BATTLEY.

Cripplegate, Jan. 30, 1839.

UREA IN THE BLOOD.

To the Editor of the Medical Gazette.

SIR,

IN a late number of the MEDICAL GAZETTE you did me the favour of inserting an account of a case of cholera, in which the blood was found to contain more than a grain of urea to each fluid ounce. In that paper I stated that I believed this to be the first case in which the presence of urea was distinctly ascertained in human blood, and its quantity determined.

In making this statement, I was aware that some *indications* of the presence of urea had been observed in human blood, but, (till my attention was a few days ago directed to it by a friend), I had not adverted to the satisfactory evidence of its presence in three cases of dropsy, published by Dr. Christison, in the *Edinburgh Medical and Surgical Journal*, vol. xxxii.

You will oblige me by inserting this correction in your next number.

Your obedient servant,

HENRY RAINY.

Glasgow, Jan. 26, 1839.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, January 24.

John Randles, Overton, Flintshire.—Charles James Herbert, Birmingham.—Charles Beckett, Hull.—Thomas William Pocock.—Thomas Dorrington, Manchester.—Michael O'Sullivan, Listowell.—Edward Boulger, Reading.—Michael O'Reilly.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *Jan.* 29, 1839.

Abscess	3	Heart, diseased	1
Age and Debility	45	Hooping Cough	2
Apoplexy	3	Inflammation	15
Asthma	11	Brain	3
Childbirth	3	Lungs and Pleura	7
Consumption	36	Insanity	4
Convulsions	26	Liver, diseased	2
Dentition	6	Measles	3
Dropsy	8	Miscarriage	1
Dropsy in the Brain	4	Paralysis	4
Erysipelas	3	Small-pox	7
Fever	10	Spasms	2
Fever, Intermittent, or Ague	1	Tumor	1
Fever, Scarlet	8	Unknown Causes	90
Fever, Typhus	5	Casualties	12

Increase of Burials, as compared with the preceding week . . . 92

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

Jan. 1839.	THERMOMETER.	BAROMETER.
Thursday . 24	from 27 to 43	30·42 to 30·32
Friday . . 25	37 49	30·05 29·89
Saturday . 26	30 39	30·04 30·10
Sunday . . 27	27 35	30·21 30·13
Monday . . 28	25 37	29·98 29 63
Tuesday . . 29	27 37	29·52 29·12
Wednesday 30	16·5 31	29·11 29·00

Winds, N.E. and N.W.

Except the mornings of the 28th, 29th, and 30th, cloudy; rain on the 25th; snow on the 26th and four following days; raining very fast during the evening of the 29th.

Rain fallen, ·335 of an inch.

CHARLES HENRY ADAMS.

NOTICE TO CORRESPONDENTS.—Numerous letters and papers are unavoidably postponed till next week.

ERRATA.—In Sir C. Scudamore's paper, p. 561, last line, 1st col., *for* "decomposition," *read* "deposition;" and in 1st line of 2d col. *for* "its," *read* "it."

WILSON & SON, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, FEBRUARY 9, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

On the Chemical Constituents of the Urine, and the modes of demonstrating them.

Bile.—This principle is of importance rather as shewing a deranged action of the digestive organs, than as essentially connected with urinary diseases. In some hepatic affections, in which the flow of bile into the intestines is interrupted or suspended, a portion of this principle passes off by the kidneys, while a considerable proportion is, at the same time, deposited in the tissues, as under the skin, for instance, to which it gives a deep yellow tinge.

You here see a specimen of bile; it is a greenish-coloured fluid, of a bitter taste, and its smell nauseous and peculiar. The bile direct from the liver is lighter in colour: as obtained from the gall-bladder—of which what you now see is a specimen—it is more viscid, and of a greener tint. Its viscidity and lesser fluidity is probably owing to an intermixture of mucus, derived from the mucous lining of the gall-bladder, and to the absorption of a portion of its water. It has a specific gravity varying from 1020 to 1030. It is mostly, in its recent state, alkaline; and Schultz states that when thick, one drachm of acetic acid was required for the neutralization of an ounce; but when thin, one-third, or half a drachm, only was required for neutralizing the same quantity. The free alkali seems to be soda, and serves to hold the resin in solution. It does not coagulate at the boiling point, nor does it dissolve oils. The colour of the bile appears to depend on a greenish matter, which seems to be separated by hydrochloric and nitric acids; and acetic acid precipitates the mucus of the gall-bladder. Berzelius gives the following as the composition of the bile of the ox; and Prout's analysis agrees in all essential particulars with that of Berzelius. Thenard's, however, is somewhat different, and therefore we place them in apposition:—

Berzelius.

Water	90·44
Biliary matter, with fat	8·00
Mucus of gall-bladder	0·30
Osmazome, chloride of sodium, and lactate of soda	0·74
Soda	0·41
Phosphate of soda, phosphate of lime, and traces of a substance insoluble in alcohol	0·11
	100 00

Thenard.

Water	876·6
Biliary resin	30·0
Picromel	75·4
Yellow colouring matter	5·0
Soda	5·0
Phosphate of soda	2·5
Chloride of sodium	4 0
Sulphate of soda	1·0
——— lime	1·5
Oxide of iron	a trace.
	1000·0

Bile when slightly diluted assumes a dark brown colour: hence the fæces, if properly mixed with bile, have a dark brown colour, something of the colour of moistened rhubarb, or of the colour of the

tincture; but when more diluted it becomes of a light yellow, as you may observe in the specimens before you. If we add to bile diffused through a fluid a little hydrochloric acid, a greenish colour is immediately struck—as you witness in this case. If a piece of linen be dipped in a mixture of bile, on drying it assumes a yellow colour. Here is some urine passed by a patient labouring under a severe degree of jaundice; and here is a piece of linen dipped in the urine and dried, and you see it is stained of a deep yellow. The urine itself, as you see, is of a deep brown; but by adding a few drops of hydrochloric acid it becomes, as you see, of a dirty green. From this you may infer that the quantity of bile is large; and if I dilute a small portion of this urine, it becomes yellow—as you observe. If to this I add a little hydrochloric acid, the yellow will be converted to a lightish green—as you observe to happen. This appears to me to arise from the precipitation of the greenish colouring matter, because, by being allowed to stand for some hours—say from twelve to thirty-six—a precipitate will subside, and the supernatant portion will lose its greenish colour. We shall put this jar by, and you will see in a day or two the verification of this assertion.

Berzelius considers the matters detected in the more elaborate analyses of other chemists to be products of their operations, and that they originate in those plays of affinities exerted by the action of chemical agents upon organic principles, and that they are not real educts. You are to understand an educt as the mere separation of a principle pre-existing. ready formed in the assay; but a product is a new principle, generated by the reagency of chemicals or processes, upon the constituents of pre-existing principles. Thus, sugar, mucilage, and gum, are *educts* from the organized bodies from which we extract them; but the generation of oxalic acid by the action of nitric upon sugar, by caustic potass upon certain animal principles, and the conversion of starch into sugar by sulphuric acid, are instances of the formation of new principles not pre-existing, and the principles thus generated and evolved are named *products*. The former, therefore, is an instance of mere *separation*; the latter of the *formation* or *generation* of a *foreign* principle, and its subsequent *elimination*. But as we have shewn, bile, when mixed with the urine, is to be detected by the addition of hydrochloric acid, which strikes a green colour of more or less intensity.

Mucus.—This principle exists naturally in the urine: but as it is derived solely from the mucous lining of some one or other portion of the urinary organs, the quantity is extremely small, and scarcely appreciable in the healthy condition of these organs. Berzelius estimates the healthy quantity at ·32 in 1000 parts of urine.

Mucus is a peculiar secretion from mucous tissues. Of these, some are furnished with follicles, and others have none. Thus, mucus is secreted by the lining membranes of the maxillary, frontal, and sphenoidal sinuses, as well as by those membranes which have follicles.

Mucus is not formed by any other than mucous membranes, and it seems intended as a protection for those surfaces exposed to the influence of external or foreign agents. Hence it is secreted by the mucous linings of cavities which are destined to receive or contain *acrimonious* fluids, &c., as the bladder, for instance.

The properties of mucus are neither very distinct nor characteristic; and this, perhaps, partly because the secretion of all mucous tissues is not exactly alike. Mucus may be diffused through water; but is not soluble in it. Placed in water, it swells, acquires apparent fluidity, but is not dissolved, but gives a ropiness to it, when present in a ratio of less than one per cent. It does not coagulate by heat. Alcohol precipitates it from water in which it has been diffused; but after being washed it may be again diffused in the water. Berzelius, however, who thus characterizes mucus, mentions certain differences, according to the parts from which the mucus is derived. Thus he found the mucus of the gall-bladder quite insoluble in acids; while that in the urine is to a certain extent soluble in dilute acids, as well as dilute alkalies. Generally, however, acids dissolve mucus, though very sparingly. Gmelin asserts, that all acids, even the acetic, coagulate even the intestinal mucus. The acids, according to him, do not dissolve it even at the boiling temperature; and the small quantity dissolved by the acids, or extracted by digestion in water, after the acid has been poured off, may be precipitated by infusion of galls, but seldom by ferro-cyanide of potassium.

The mucus mixed with the urine may be somewhat increased in quantity without undergoing any remarkable morbid change. Here is some urine which contains mucus, in some though not very manifest condition. I take a little in this test-tube—I add to it a few drops of acetic acid; and you see it becomes cloudy. Sometimes this takes place more evidently than at present, and sometimes even a day or so will be necessary for the manifestation of the phenomena. Now it will be a day or so before the cloud subsides; but

you see in this test-tube a portion of the same urine precipitated by acetic acid, and the precipitate has been allowed to subside. The acid was added to this yesterday morning—so that it has stood above eight-and-twenty hours. I dip in a slip of litmus, and you see it reddens it—but the urine in its natural state reddens the litmus but very slowly, as you see. We shall filter off a portion from the precipitate; and on adding a few drops of a solution of ferrocyanide of potassium, a sort of yellowish white precipitate, as you see, falls down. The mucus probably, in this instance, is altered in some way, by the mucous lining being in some state of irritation, in which it throws out some fibro-albuminous exudation, and which probably may exert some reaction on the mucus. This is an evidence of some incipient morbid condition of the muco-urinary apparatus, with the exact nature of which I am not acquainted, but to which it will always be advisable carefully to attend; for although we do not often meet with opportunities of investigating the immediate anatomical conditions, we have but too frequently opportunities of witnessing, though we can do no more than lament, the ravages which ultimately follow.

But there are other instances in which we can in no way be mistaken either as to the quantity or quality. I happen at this moment to have two patients labouring under Catarrhus vesicæ — a disease in which not only is mucus secreted in excessive quantity, but its qualities seem to be completely altered. I have brought a specimen of this urine: you see it is dark and opaque; it has a very foul smell, as you may perceive. It is alkaline, for it turns reddened litmus paper blue, as you see. If the urine be moved, you see ropy flakes or strings moving about; but the most remarkable phenomenon is, that when I pour off the urine, a great proportion of the mucus remains in the bottom of the utensil. It has the consistence of jelly, although much more viscid and adhesive. Thus, if I invert the utensil, it remains as firmly attached to the bottom; indeed, much more so, by its own adhesiveness, as when in the upright position by its own gravity. I would recommend you to attend particularly to the urine in each of these two specimens; and such of you as may feel disposed may visit the cases, and thus you will have an opportunity of seeing the changes effected in the urine by medical treatment. Therefore a recollection of the existing conditions will be useful when, at a more advanced period, we probably shall have occasion to refer to them.

Pus is another, and the last of the morbid principles to which we shall have to refer under this division. It is found occasionally in the urine. Formerly it was considered of the utmost importance to distinguish between mucus and pus, inasmuch as the latter was considered almost invariably a certain indication of the presence of an ulcer; and we find in the older works a number of chemical tests suggested for distinguishing these two principles. Thus if pus was found in the sputa in pulmonary complaints, ulceration of the lungs was inferred. But now we know that secreting surfaces, especially mucous, very often secrete pus without any abrasion; and that the character of pus will vary according to the circumstances under which it has been secreted. Thus, we often find pus poured out by the lining membrane of the urethra, by that of the bronchi, and also of the mucous lining of the intestines; and very frequently without the slightest abrasion of surface.

Pus, when poured out from an ulcerated surface, varies according as the ulcerated surface be healthy or unhealthy, and it is named healthy, well-conditioned, or laudable, and unhealthy or ill-conditioned pus. Healthy or laudable pus, of which you see a specimen here, is an opaque liquid of a yellowish colour, having the consistence of cream. The specific gravity is about 1·030. It does not affect vegetable colours; but, after exposure to air, it becomes sour, and then manifests an acid reaction upon the colouring matter of vegetables.

Placed in the field of the microscope, pus presents the appearance of globules diffused in a fluid. Here you see a portion of pus on this glass supported by the table plate of the microscope. You see that they have a round or spheroidal figure. According to Weber, also, they measure from $\frac{1}{2770}$ to $\frac{1}{1385}$th of an inch in diameter; the majority, however, measure $\frac{1}{2215}$th of an inch, and consequently they are about double the size of the red particles of the blood. "These facts prove that these globules are not the *red particles* of the blood altered by disease; the globules of the milk are too small; those of the pus too large. The latter cannot come from the interior of the capillary vessels, for their diameter is greater than that of the smallest of these vessels. Besides, if the red particles which were thus altered could find their way out of the vessels, others in the unchanged state would escape with them. The view which I take of the mode of production of the globules of milk, pigmentum nigrum, and pus, is, that they are either thrown off from the substance of the secreting surface, or formed by the partial coagulation of the animal matter dissolved in the secretion into globules (in

a way similar to the coagulation of albumen in solution), which is probably the mode in which the particles of the milk and pigmentum nigrum are produced *." Autenrieth relates the following curious fact in relation to the formation of pus globules:—If we collect some of the watery moisture which exudes from the surface of an inflamed part after the pus has been removed, and place it between two thin transparent plates of talc, and these allowed to remain in the wound, globules are observed forming gradually in it, which enlarge and become opaque; but if this exudation be removed from the atmosphere of the living tissues, no such change is observed. Burgmans also asserts that if a suppurating surface has been washed clean, the pus is secreted, first as a clear fluid, which afterwards becomes thick and opaque.

As already observed, characters distinctive of pus and mucus were formerly sought for with great eagerness. But, in truth, there do not appear to be any very precise distinctions between certain forms of mucus and pus. Dr. Young † proposed a test founded on their optical properties. Transparent globular bodies have the property not only of refracting, but of resolving light into the primitive rays, so as to evolve the colours of the rainbow, or the prismatic spectrum. Thus, if pus be placed between two plates of plate glass, the solar ray passed through will be resolved into its elements or primitives. Indeed, light generally is thus resolved, as you may observe here; but the oxy-hydrogen stream ignited and thrown upon carbonate of lime affords an excellent substitute for the solar ray, as you may now observe, by looking at the ignited lime through the globules of pus confined betwen the plates of glass. You observe the prismatic colours very evident. But Vigla asserts that mucus—at least the mucus of the urine—is in certain circumstances globular. Under the microscope, he says, it presents in two forms—an amorphous, and as colourless round flat globules, which, he says, are granulated on the surface, and not to be distinguished from those of pus by their optico-physical characters. Æther, however, he says, serves to distinguish them by its chemical effects. Æther digested on pus globules dissolves, and becomes charged with oily matter, but receives no such impregnation from mucous globules. Therefore a distinctive character between the globules of mucus and pus is the oily matter with which those of the latter are enveloped, and to this coating, perhaps, they also owe their higher refractive powers as compared with mucus.

The mucous lining of the nostrils presents, perhaps, the best example of proper mucus, and likewise of the transition of this principle into pus. Secreted by the membrane in a state of perfect health, it seems a sort of a tremulous jelly-like mass without any specific form. When the membrane has been somewhat excited, the secretion assumes a somewhat irregular or rugous globular form, æther digested upon which dissolves nothing, for it evaporates without leaving any residue. But when the Schneiderian membrane suffers from inflammatory excitement, as in some forms of catarrh, the purulent character of the secreted matter is sufficiently obvious, and the globules become distinct, and to æther give up their oily coating. I have been lucky enough to procure sufficiently distinct specimens to afford examples of these different states, and I shall now pass them under yonr review in the field of the microscope.

The first effect of irritation, or, in other words, *morbid* excitement, is increased action. Hence a greater quantity of the secretion is at first poured out. The qualities next are found altered, and to have undergone a morbid change. Thus, from being a mere lubricating fluid to preserve the natural integrity, and the free motion of the contiguous surfaces, it becomes thick, more glutinous, adhesive, and readily concretes, glueing the contiguous surfaces together, and thus mechanically closing up passages which, in the healthy state, are open. Here the quantity of secretion is comparatively small; but as the morbid action advances, the quality alters, and the quantity greatly increases. It now becomes yellow, opaque, and globular, and is discharged in much greater quantity; as an example of all which phenomena I may direct your recollection to what occurs in gonorrhœa. From these facts, therefore, we may infer that pus is not essentially distinct and different from mucus; but that this latter, under peculiar conditions of the secreting surface, is capable of being transformed into true pus; and hence, also, you will be satisfied that a discharge of pus is no proof of ulceration, nor, indeed, of any solution of continuity. But we shall have occasion to revert to this subject again.

Of some other substances said to be found in the urine, but not mentioned in the table.

Various authorities profess to have detected other substances, both organic and inorganic, in the urine; and although, perhaps, of minor importance, yet to complete the subject of our investigation, it will be necessary to advert to them.

* Muller's Physiol., translated by Baly, p. 469.
† Medical Literature.

The structure of the mucous membrane consists of an interlacement of fibres, on which, in some parts, a layer of very minute perpendicular cylinders rests, and in which the numerous mucous follicles are seated. The mucous membrane of the mouth, intestinal canal, and urinary passages, are covered by an *epithelium*, the minute portions of which are arranged side by side, somewhat like a pavement. The particles, of which each contains a nucleus, are constantly separating and thrown off, and hence are readily to be procured, and examined in the saliva and mucus of the mouth, placed in the microscope. In the mouth they appear as thin scales, lying horizontally one over the other, forming strata. Fig. 31 of Müller's Physiology, which I now present you, is a representation of the scales of the epithelium from the inner surface of the cheek and of the conjunctiva. The foot-note will explain to you both figs. 31 and 32.

Here you may observe the scales of the epithelium taken from the inner lining of the cheek and placed upon the table plate of this microscope; and I think you will allow that the delineation is a very good representation of the reality.

The urinary passages are lined throughout their whole extent with a mucous coating. The mucous lining of the urethra is covered with an epithelium, which incessantly throws off those minute plates or scales already adverted to. Vigla, in his microscopical experiments upon the urine, has observed these squamulæ in great numbers. The scales from epithelium of the urethra are not difficult to distinguish; and, in fact, very closely resemble those from the mouth which you have just examined. They are small, roundish, but still not regular. In the middle, or sometimes at the sides, they appear dark, and mostly somewhat elevated. You may observe these squamulæ in juxta-position with those of the mouth, upon this glass plate under the microscope. Perhaps it would not have been necessary to have adverted to them, were it not that they have sometimes presented themselves in such abundance in the urine as by subsidence to form what has been supposed to be the mucous cloud of healthy urine.

Prostatic fluid, according to Berzelius, is perfectly clear and limpid, and capable of being drawn out into threads of some length. Vigla has submitted this fluid to microscopic observation; it was obtained from the prostate gland of an adult male, in whom it had been cut, and from which it gradually exuded. He found it to consist of a number of very minute globules; and he states that he observed globules precisely similar on some occasions in the urine.

Spermatic fluid is distinguished by the number of animalcules or infusoria which it contains; and indeed they seem to enter into the composition of the spermatic fluid of every animal. Vigla and Quevenne discovered, in some urinary deposits, spermatozoa. They were invariably, with one exception, found dead. However, so little is known in relation to these conditions, that we can hardly enter upon the consideration of the subject.

Milk has been observed, according to some authors, in the urine; but assertions of this sort require some better foundation than that on which they at present rest, before their truth can be admitted. Vigla never observed real milk in the urine but once, and then it was found that the patient had been in the habit of mixing milk with the urine for the purposes of imposition.

Fatty matter is sometimes to be found in the urine. I have, in one or two cases, seen it so abundant as to form a very delicate film. It may be obtained by evaporating the urine to a thick consistence, and then treating with æther. The æther may be abstracted by means of the pipette, and distilled off; the fatty matter will remain. This matter is of some importance, as it appears to indicate tumors of the bladder of the steatomatous character, and by which it appears to be thrown off.

CLINICAL LECTURES ON MEDICINE,

Delivered at the Meath Hospital, Dublin,

Session 1837-8,

By Professor Graves.

Lecture IX.

Different forms of Syphilitic Eruption—Methods of Treatment—Affections of the Bones—Memorandum of Dr. Fricke's Practical Observations on the Nature and Treatment of Syphilitic Diseases.

These were found by Dr. Fricke so various and complicated, as to render their classification a matter of difficulty. Most of them, however, exhibited in general the characters of one of the following classes.

1. Pimples, at first discrete, of a bright liver colour, on a level with the skin in the commencement, but afterwards somewhat raised and indurated; they appeared first on the forehead, and then on the breast and back, but rarely on the extremities; they were not in general covered with scales, or surrounded with an inflamed areola; often formed small puru-

lent vesicles, and rarely exceeded in size the head of a large pin. They generally appeared after non-mercurial treatment, and disappeared quickly and completely.

2. Brown spots, at first light, but afterwards darker, and of a copper hue, from two to six lines in diameter; roundish or angular, raised somewhat above the skin, flattened, shining, and covered with scaly laminæ. They appeared at first on the back, breast, and nape of the neck; then on the arm and forearm; and afterwards extending over the face, forehead, scalp, and lower extremities, so as to give the patient a mottled appearance. When the disease went on unchecked, the spots increased in size, became harder and more elevated, engaged the skin more deeply, and when neglected passed into ulcers, or into the following class. This form of eruption was generally seen on patients who had taken mercury for the primary disease.

3. Very large purple spots, from one to two inches in diameter, or more, somewhat indurated with outlines imperfectly circular, in consequence of their angular projections, generally single, seated on the extremities and shoulders, raised above the surrounding skin, partly raw, partly covered with crusts, and frequently changing into deep ulcers. They often appeared with the colour above mentioned, or formed from small, hard, deep-seated purple spots, which increased in size, sometimes from spots of the second description. They never appeared on the face, but always on the shoulders, and on the upper and lower extremities, were extremely obstinate, and always left behind them a discoloration of the skin. This form of eruption was observed only in cases where large quantities of mercury had been used.

The second and third forms were the only ones that ended in ulceration. These ulcers were of various kinds, but in general were characterized by an unequal base, imperfect granulation, corroded edges, and an inflamed areola. A third form of ulceration was also frequently observed; this was the result of chronic abscesses, and generally occurred in syphilitic cases of long standing.

Treatment of Syphilitic Eruptions.

The treatment was extremely simple. It commenced always with ablutions with soap and warm water, and the purging mixture of Epsom salts: by these means alone the eruption No. 1 was generally cured. In cases of the eruption No. 2, after a few days we proceeded to the use of nitric acid baths (from one to two ounces of the acid to each bath), along with the internal use of the decoction of the woods, to the extent of eight or twelve ounces in the day. The diet was at first low, but was afterwards gradually improved. During the first period, the patients were confined to bed; but when the eruptions became milder, they were allowed to walk about their rooms. When the spots became pale, the skin smooth, and the face and forehead clean, exercise in the open air was regarded as a means calculated to complete the cure. The spots on the face were moistened frequently in the day with a solution of corrosive sublimate (twelve grains to twelve ounces of water,) or of nitric acid (a scruple to twelve ounces of water), and in milder cases disappeared so much in the course of four weeks as to allow the patients to take exercise in the open air.

The spots described as No. 3 came much less frequently under our notice, but they were of the most obstinate description, and were very slow in disappearing. In some cases, after employing the foregoing and other external remedies in vain, we have derived remarkable benefit from covering each individual spot with small blisters. As soon as the blister rose, and a raw surface formed, marsh mallow, or zinc ointment, was applied, and cicatrization promoted as speedily as possible. After this application the spots became much paler, smoother, and more like the sound skin; they also became less prominent, and exhibited fewer raw patches.

In general, we considered the use of baths as the most valuable means of cure in syphilitic eruptions. The following were those chiefly employed:—

Fresh water baths were used as well in the commencement of the cure, with the view of trying their effects on the eruption, as also at a later period, for the sake of cleanliness, particularly where there was a copious detachment of scurf. Soap baths (in the proportion of a pound of yellow soap to each bath) always constituted the first steps of treatment in every form of eruption. Partly, we were able to draw a tolerably fair conclusion from their influence on the eruption, as to the quickness or brevity of its course, and partly they were found sufficient in many cases to effect a cure without any other remedy. From six to eight baths were in general found sufficient for the removal of the eruption marked No. 1, and from twelve to sixteen for that of some others resembling No. 2; in the commencement, at least, they exerted a favourable influence over all. Saline baths (composed of two pounds of common salt to each bath) were used only on a few occasions, and without any remarkable effects.

Vitriolated zinc baths (consisting of two ounces of sulphate of zinc to each bath) were prescribed with good effects in the

eruption marked No. 2, but were very seldom employed. Of nitric acid baths we have already spoken.

Sulphuric acid baths (consisting of two ounces of the strong acid to each bath) exerted a favourable influence on the eruptions.

Corrosive sublimate baths (half an ounce of the sublimate to each bath) were often employed, and were of great service, particularly when preceded by soap and nitric acid baths. They seemed to remove the eruption more speedily than even the nitric acid baths. In the eruption marked No. 3 they did not answer our expectations.

Bran baths operated with remarkably good effects in the eruption marked No. 1; they also rendered the third description milder, and thereby contributed to diminish it.

During the year 1827 the venereal patients took on the whole 14 saline baths, 38 zinc baths, 103 bran baths, 302 sublimate baths, 314 nitric acid baths, and 330 soap baths.

AFFECTIONS OF THE BONES.

Caries of the bones was never seen in any case which had been treated without mercury throughout; the bones which were most frequently attacked with caries were the nasal, palatine, maxillary, sternal, and tibial.

Pains in the bones were of various kinds. The following varieties were those chiefly observed:—

1st. Fixed pains in the centre of the bones. These were generally felt in the bones of the shoulder, forehead, and forearm, but chiefly in the tibia. The pain was dreadful; increased by the heat of the bed at night, and by the slightest touch; it in general deprived the patient of all sleep, and was accompanied by nodular swelling, which sometimes terminated in abscess and caries.

2dly. Fixed pains in the ends of the bones. Sharp lancinating pains were felt most frequently in the knee, ankle, and shoulder-joints, more rarely in the hip, elbow, and wrist-joints. These were sometimes slight, sometimes intense, and of an inflammatory character. They were aggravated by cold, great heat, pressure, and on the approach of night, but relieved by warmth and moisture, particularly the latter which produced local perspiration. They were frequently combined with anasarcous swellings of the parts, and, when neglected, sometimes terminated in effusions of water or pus into the synovial membrane of the joints.

3. *Fixed pains in tendinous parts.*—Tense lancinating pains were felt in the tendinous expansions and ends of the muscles, particularly those of the head, nape, back and shoulders; sometimes, but not always, increased by pressure, relieved by warmth and moisture, and exasperated by cold, particularly cold draughts of air. They resembled rheumatic pains, were extremely obstinate and harassing, and sometimes ended in partial paralysis.

4. *Flying pains.*—These were felt in various parts of the body, in the head, the joints, arms, femur, and tibia, and generally appeared where the patient had been exposed to cold after mercurial frictions. They sometimes disappeared of themselves, and sometimes became fixed, but seldom harassed the patient so much as the foregoing species.

The treatment of the first species of pains was much easier than that of the second or third. In the first species the only thing which was found to be productive of certain and permanent relief, was to make an incision over the painful part down to the bone. As soon as this was done, and a poultice applied, the pain ceased, and never returned. The incisions varied from one to two inches in length. The periosteum and bone were in general swollen, and the latter was often found carious, or covered with sanious pus. Leeches, cataplasms, and alkaline baths, were of little use except at the commencement, or in very slight cases. Pains of this description generally came on after the use of mercury, but were also observed in two instances at the termination of gastro-rheumatic and rheumato-nervous fever. Pains of the second description were treated antiphlogistically. When of an inflammatory character, leeches, cataplasms, rest, and the free use of opium at night, in general proved successful. Warm or sulphur baths were frequently given, and the patient took nitre or the acids by day. Pains of the third kind were treated with alkaline or sulphur baths, tartar emetic ointment, warm clothing, frictions, and, when on the decline, exercise in the open air, and a cautious use of the cold bath. Flying pains generally yielded to warm baths, but sometimes required the line of treatment applied to pains of the third species.

Iritis and alopœcia were observed only in a few cases, and invariably in patients who had been treated with mercury.

Such, gentlemen, are the conclusions at which Dr. Fricke had arrived when he published his Surgical Annals, in 1828.

As ten years have since elapsed, during which Dr. Fricke has continued to conduct the treatment of the venereal patients in the Hamburgh hospital, I took the liberty of writing to him, for the purpose of ascertaining whether subsequent experience had induced him to alter his

views. His answer was, that instead of altering his views, experience had confirmed them. Dr. Fricke, at the instance of Dr. Oppenheim, had the kindness to discuss some of the most important topics connected with syphilis, in the presence of a well-informed and intelligent young surgeon, a friend of Dr. Oppenheim, who took notes of what Dr. Fricke said, and transmitted them to Dublin for my use. These notes I now proceed to lay before you; and, in doing so, I beg leave to observe emphatically, that Dr. Fricke cannot be held responsible for them, inasmuch as though I believe them to be in every respect accurately taken, yet allowance must be made both for misconception of Dr. Fricke's meaning, on the part of the gentleman who took the notes, and of errors on the part of the translator. The latter I have endeavoured, if possible, to avoid; for the translation, made originally by Dr. West, has been since carefully revised by Mr. Swift and myself, and I think, therefore, I can answer for its fidelity.

It is scarcely necessary to add how much I feel obliged to Dr. Fricke for the readiness with which he complied with my request, and the trouble he has taken to fulfil my wishes. The great hospital of Hamburgh, under his care, affords one of the best schools for medicine and surgery with which I am acquainted, and affords the best opportunity for the study of venereal complaints. In truth, I strongly advise students who wish to obtain a knowledge of continental practice, to go to Hamburgh in the first instance. Half a year, or a year, spent in that city, will afford them more chance of obtaining sound practical information, than if they had repaired to Paris or Berlin.

Dr. Fricke's Practical Observations on the Nature and Treatment of Syphilitic Diseases,

(*Being the substance of various Oral Communications in the month of November*, 1838.)

Among the German writers who have contributed to advance the rational treatment of syphilis, Dr. Oppenheim has mentioned Brunninghausen, of Wurzburg, Pokkels, of Brunswick, Von Walther, of Bonn, and more particularly Fricke, of Hamburgh*, who published several papers on the subject in Rust's Magazine for 1826 and 1831, and in Casper's Wochenschrift for 1834.

Subsequently, Dr. Fricke communicated, in his "Surgical Annals" for 1828, his very important observations on the rational treatment of the disease. G. Handschuh (On the Forms of Syphilis and their Treatment, Munich, 1831,) who has given an elaborate and critical history of the pathology, prophylaxis, and treatment of syphilis, with a view to the more extensive diffusion of a harmless system of treatment (a task subsequently executed with more accuracy by Bonorden), often refers to these observations of Dr. Fricke, and attempts also to prove that under the name of syphilis are comprised a number of diseases which have probably no mutual relation, and in the treatment of which mercury is usually employed. Even at the present day, German practitioners in general repose the highest confidence in mercury. No one appears to concern himself about its *modus operandi*, or why it should be preferred to all other remedies in the treatment of syphilis, every one pursuing with respect to it the same reasoning in a circle as with respect to Peruvian bark. Bark cures intermittent fever, but intermittent fever cannot be always cured with bark.

Dr. Fricke, however, has had no reason to abandon his new method of treatment; on the contrary, further experience has not only confirmed his previous observations in every instance, but also a series of cases, now amounting to several thousands, has forced upon him a conviction *of the superior efficacy of what has been termed (but incorrectly,) the antiphlogistic method*, and at the same time has led him to new views with respect to the nature of syphilis, a disease exceedingly complicated in itself, and rendered still more obscure by the hypotheses put forward with respect to it, some with more, others with less, foundation. As the result of his investigations it may be stated:—

That syphilis has two constituents, namely, *contagion* (a source to which attention has been almost exclusively directed), and *disposition*, an agent of equal importance, at least so far as the origin, reproduction, and treatment of the disease is concerned.

I. Pathological Propositions.

(*a.*) *Contagion.*

1. Numerous experiments in which the pus of chancre was mixed with mineral poisons (as for instance, chlorine, corrosive sublimate, arsenic, &c.), or with vegetable (as cicuta, belladonna), or with the matter of itch or small pox, have invariably afforded the same result, viz. the production of genuine chancre. Hence we may conclude, that contagion is something extremely subtile, and capable of maintaining its own

* Dr. Oppenheim himself has indirectly, but powerfully, assailed the mercurial treatment in his work, "Behandlung der Lustseuche ohne Quecksilber. Hamburgh, Hoffmann, and Campe, 1837;" which contains an erudite and accurate list of all the remedies which up to that time had been successfully employed in the treatment of syphilis.

vitality, and consequently that it must be very difficult to invent a preventive against it. Even the application of ice or heat to the inoculated spot fails in arresting the development of chancre.*

2. The syphilitic, like all other contagions, has a tendency, when its course is not disturbed, to develope itself on the membranous tissues, particularly on the confines of tissues of different kinds, as for instance, on the prepuce (the normal secretion of which allows us to class it as intermediate between skin and mucous membrane), around the anus, at the terminations of the intestinal and bronchial membranes, on the conjunctiva, a membrane which holds an intermediate rank between the mucous and serous. The most obstinate form, condyloma, generally selects such transition spots or intermediate tissues. The history of contagion informs us, that in prevalent and severe cutaneous affections, it is the result of contact between individuals in different states; and the practice of medicine teaches us that attention to the skin, or, in other words, cleanliness, is beyond doubt one of the most efficient remedial agents, and its observance a main condition of cure. Mercury, with its pseudo-syphilitic cutaneous affections, as well as all other antisyphilitic remedies in repute, promote or produce directly an excitement of cutaneous activity. Nodes, independently of being the reflex action of the disease on the periosteum (a membrane which belongs rather to the secreting than the dry fibrous tissues) form no argument against this position.

3. True crises are scarcely to be expected or observed in chronic diseases of the skin. We should, however, always bear in mind, that the constitution requires a certain degree of power to react against contagion, and resist the morbid process which the latter endeavours to establish; and that this power is least of all to be interfered with where the existence of a morbid predisposition, but more particularly of the scrofulous diathesis, is likely to destroy its due balance. In such cases mercury is positively injurious.

4. The contagion of syphilis seems to possess a certain degree of protective power against the same disease. Thus if an infected person be inoculated with the virus he is much less likely to take the disease than a healthy uninfected person. In this, however, the local and general condition of the system which occurs during coitus, and strongly disposes to the reception of contagion, plays an important part. If, however, a person affected with chancre were inoculated with the matter of that chancre on a fresh spot, and from this on a third and so on, it will be found that this process can be repeated only a few times with success. The individual becomes, as it were, habituated to the virus, and less susceptible of its influence. In the same way no secondary affections are capable of being propagated by inoculation. May we not, then, look upon these affections as a salutary effort of nature to check the progress of the disease? The relative immunity, too, enjoyed by some females, seems to depend upon the constitution being as it were stimulated to reaction and spontaneous cure by a second contagion. In persons of this kind, an inveterate lues, that is, a modification of their whole organic system by the syphilitic contagion, may exist for a long time without offering a single point of attack for therapeutical agency. Even connexion with such individuals, provided they are free from local sores, is not dangerous to others.

* Eisenman asserts on some occasions, but, erroneously, that the admixture of corrosive sublimate destroys the syphilitic virus. Fire certainly destroys it; but still it is not an antisiphyliti

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ON THE
EFFECTS OF CERTAIN
PREPARATIONS OF COPPER ON THE HEALTH OF PERSONS
EMPLOYED IN IMITATIVE GILDING.

To the Editor of the Medical Gazette.

SIR,

IT could not be but gratifying to me to find that my letter, of the 3rd November, 1839, describing the effects of the metallic powder used in printing the "Golden Sun," was considered of sufficient interest to be transcribed from the GAZETTE into the columns of some metropolitan and provincial journals. As a natural effect, it produced me several correspondents. Some of these stated where the powder might be procured for analysis; others inclosed samples of it; and others, again, detailed more or less of the mode in which it was procured; and of its effects on those employed in manufacturing and using it. The greater part of these letters were anonymous; and many were evidently the productions of foreigners, or of individuals in an humble sphere of life, who were afraid of giving their names for fear of offending their masters. The statements they contained varied much; some being founded only upon conjecture, and others on false information. The following, however, seemed clear, that my comparison of the powder to above statement, that some of the par-

brass filings was so far correct, that copper is the chief component, if not the sole constituent, of this substitute for gold; that it is manufactured in and near that grand toy-shop of the world, Nuremberg, and especially at Furth; that it is largely employed at Birmingham in gilding tea-trays, china, and many other articles; that one of the German manufacturers had recently come over to England with the requisite machinery for the purpose of establishing a manufactory of it in that town; and that it is used in many printing-offices, and sold by most German merchants in London, at a sum varying from half-a-crown to four shillings per ounce. Having ascertained thus much, it was clear that the composition of a powder, which any person had it in his power to buy and analyze, could not long remain a secret: I consequently applied to Messrs. Christ & Co., of Mark Lane, who supplied me with a sample at three shillings per ounce, the wholesale price. From them, too, I found that it was not only used in the manufactures before named, but also in paper hangings, in labels for fancy goods, and in ornamented cards, such as those issued to the Common Council, this last Lord Mayor's day—beautiful specimens of printing, with gold letters on an ultramarine ground.

Messrs. Christ & Co. further stated, that it was they who had supplied the Sun newspaper, and other printing offices, with this "*bronze*," as it is called in the trade; but that they had never heard any complaints of its affecting the workmen in the manner I have described.

About the same time I received a visit from a very intelligent journeyman paper-stainer, whose name I am not at liberty to mention, and whom I must therefore designate as A. B. He brought with him two samples of the bronze, one sold at sixty, and the other at thirty-five shillings per lb., and while he confirmed the statements given in my letter as to the general effects of the powder, he described those of the cheaper sort as particularly violent; indeed so much so as to have caused the men to refuse to use it. A Jew, he said, who was acquainted with the mode of preparing it, had told him it was nothing more or less than brass pulverized whilst still hot after fusion, and that the people employed in making it "died off like rotten sheep." He added, that he had known many who worked at bronzing tables, when this mode of gilding paper hangings was first introduced, but none that had been able to pursue the occupation for any length of time consecutively, and still further, he was himself so convinced of its noxious effects that he had always steadily refused to undertake the employment. To all this he subjoined many particulars touching the mode in which the bronze is used by the paper-stainers, as also regarding the size employed for attaching it. What he said on the latter subject leads me to believe I was either misinformed or mistaken, in saying that the yellow ink I saw used in the Sun office consisted of size and gamboge: it seems more probably to have been what is called japanner's gold size—a mixture of linseed oil, litharge, burnt umber, copal, spirits of turpentine, and light chromate of zinc or lead.

I likewise gathered from him that the component parts of the gold size employed by gilders in common articles consist of French chalk, fine pipe-clay, and a small quantity of the best black lead, mixed with tallow and bees'-wax; and he entered into various particulars regarding the gilding of porcelain. In gilding the best porcelain, he said the nitromuriate of gold is used, in union with borax, as a flux, and the purple hues are gained by the use of manganese, while different shades and tints of gold are produced by gilding on a coloured ground, or mixing small portions of vermilion, with the size employed, stove drying, varnishing with copal, and then stove drying again. Silver leaf lacquered, he assured me, is used for the purpose of gilding many articles; and though the Dutch gold produces a far finer metallic ground than the bronze, the latter has superseded it on account of its cheapness.

In short, he confirmed every one of the particulars enumerated by Oakey, concerning the action of the bronze, except the epistaxis, from which he had neither suffered himself, or known others to suffer.

I may here add, that A. B. directed my attention to the effects of a certain colour, used extensively in the process of paper-staining, and called emerald green, on the men who used it; and as he gave me his own case, and enabled me to notice those of others, it is my in-

tention further on to record them, and to subjoin some remarks on the nature and action of that poisonous composition. The gold colour produced by the bronze is very beautiful and bright, giving exactly the effect of real gold; and to judge by the specimens of the Golden Sun, and of those paper hangings which have come under my notice, it is at once durable, and not liable to tarnish from exposure to air and light; but at the same time it must be remarked, that both these qualities depend mainly on the size, which must be good in itself, and must be worked with care, and particular attention must be paid to its being in a proper state, neither too wet nor dry; but here I must stop: the very best workmen proceed very much by what is vulgarly called "the rule of thumb," even in mixing the size, and it would be wholly out of my power to describe the process of gilding, further than to say, that if the size be too wet the paper loses its effect by *sweating*, and that the bronze cannot be used in the form of an ink, as it would not thus produce a good colour, or bear what the workmen call "a proper metallic face."

The process of gilding the Sun newspapers was first conducted at De La Rue's in Bunhill Row, where from thirty to forty hands were taken on expressly to work at them. The wages paid were eighteen shillings per week, and an allowance was made to each individual of three pints of beer daily. This beer, in the opinion of the workmen, relieved the sickness, and remained on the stomach, when that organ was so irritable as to reject all solid food. Many of the persons thus employed were females, and such suffered far less than the males from the local irritation of the bronze, although they used it in the same way, and equally felt the constitutional affection, produced, as I apprehend, by swallowing portions of the powder. Their immunity from the most distressing symptoms appears to me to arise from the greater protection afforded by their attire, and from the fact that females of the lower orders are in general more cleanly in their habits and persons than males.

A few days after this, a stout hearty young man, nineteen years old, a journeyman fancy paper-stainer, (whom I must name C. D.,) called upon me also for the purpose of furnishing information with regard to the effects of this mode of gilding. He had been employed in gilding the Sun newspaper at De La Rue's factory, and had suffered much from soreness and dryness of the throat, vomiting of a green-coloured fluid, general loss of appetite, great and continued irritability of the stomach, sleeplessness, irritation about the private parts, wrists, and nose, and an obstinate constipation of the bowels, which it required frequent doses of magnesia and tincture of rhubarb to overcome. Constipation, he observed, was a general symptom among the workmen, as also was the greenness of the hair, which he had partly prevented by wearing a cap. He added that his own skin, and that of his fellow-workmen, turned of a greenish hue, and that their perspiration was impregnated with this colour, which not only stained their linen, but affected their persons to such a degree, that even the use of pearl-ash, instead of soap, would not remove it. The use of the bronze he thought increased the secretion of urine, though some may feel inclined to attribute that effect to the liberal allowance of beer; and he confirmed A. B.'s and Oakey's statements with regard to the women suffering less. The same, he observed, was also the case with those employed in processes consuming white lead. He added, that the bronze weakened the whole body, and especially the wrists, which, to use his own words, it caused to tremble "like those of painters." This fact, however, may probably be with more justice ascribable to the muscles of the wrist being especially called into action in the work, rather than to any direct effect of the powder.

My informant proceeded to say, that the bronze caused such excruciating irritation as to render it impossible for any person to remain at this occupation for any considerable length of time: many, he assured me, had been thrown into violent fits by it, and if he himself had suffered less than his partners, he attributed his comparative security to his carefully observing cleanliness. In reply to the question whether the bronze could not be diluted, and used in the form of an ink for the process of paper-staining, he answered that it could not; for though the admixture of gum, or size, might cause it to produce less injury to the constitution of the men em-

ployed, the effect would be to destroy the rollers, and thus the operation would be far too expensive.

I would here observe that the effects of the bronze appear to have been two-fold,—local, from the direct application of the irritating metallic particles, and constitutional, from the admission of a poison into the system. It seems to irritate chiefly about the flexures of the joints, and in those parts where the growth of hair serves to entangle and collect it, and like other irritants, its first effect is to produce increased capillary action and secretion.

To its local action I should refer the itching of the wrists and organs of generation. The same is also most probably the cause of the green tinge of the hair and skin to a certain extent. This may at first seem startling, and it may be asked how a bright gold coloured powder should possibly produce so dissimilar a hue; but here analogy and chemistry come to our aid, and it may be suggested that as the skin assists the lungs, in their office of purifying the blood, by excreting carbonic acid, so it is possible that a carbonate of copper of a bluish green colour may thus be formed. I beg to observe, that in referring the green hue of the skin and hair to the local action of the particles of metal, I am by no means sure I am right; two cases have lately fallen under my notice, in which persons not exposed apparently to a similar metallic contact, have green skins, green hair, and green perspiration, which stains their shirts and stockings with the same colour. These men are brass-cock founders, and for that purpose use a compound metal, consisting of a mixture of copper, brass, lead, and zinc, in very irregular proportions, forming what is generally called pot-metal, and varying much in its nature. With them, therefore, these phenomena can only be caused by the volatilized metal; since they have nothing to do with the turning, filing, or finishing parts of the work.

Upon the subject of the effects of volatilized metal, we expressly learn from Thackrah, that brass-founders suffer from inhalation of it, especially in founding yellow brass, in which process the evolution of oxide of zinc is great, which immediately affects respiration, and less directly the digestive organs, the men suffering from asthmatic symptoms, pain in the stomach, and vomiting.

If the reader will turn to the article, *Barbe*, in the *Dictionnaire des Sciences Médicales*, he will find it stated by Paullini, that copper miners have blue or green beards—a fact he refers to the metallic emanations; and Haller alludes to a similar effect produced on the workers at the mines of Fahlun. Whether, however, this colour is caused by the direct application of the metal, or by its being taken into the system, must remain uncertain. We know the effects of some vegetable colouring matters, as, for instance, madder, which, mixed with the food of an animal, tinges the bones of a deep red; and that a similar absorption is found to a larger extent in the vegetable kingdom, is a fact of which florists, I am told, are well aware, and of which they avail themselves considerably to their profit.

The assertion may sound startling at first, but its truth is well known to physiologists, that it is a most difficult task to purify a living skin engrained by continued exposure to air loaded with any fine dust. Every particle, indeed, may apparently have been removed by repeated ablutions; but, however clean the surface may appear, any exertion that induces perspiration fetches out a fresh supply. As an instance of the difficulty of removing such dyes, I have seen the hair and skin of men employed in grinding turmeric stained with a yellow, which no washing apparently could obliterate; and, to shew how the colour will return in spite of all endeavours, I know an instance that occurred during the *choleraphobia*, in which a clerk in the Custom House, who, in the course of his duty, had been employed in the vaults among the indigo, and fancied he had quite removed the dye from his skin, two days afterwards alarmed his companions at a card-table, by suddenly turning as deep a blue as ever was seen in a case of Asiatic cholera. In cases like these no one will doubt but that the colour is produced by mechanical introduction of the dye, and not by any actual change in the circulating fluids, or deposit in the rete mucosum, as takes place occasionally after the continued internal use of the nitrate of silver.

Thackrah states that brass-turners and filers, if confined to that metal, do not seem particularly unhealthy; but he

has observed that the hair of the filers turns green, owing to its oil combining with the copper of the brass; an appearance I remember having remarked in a factory at Birmingham, and which has lately presented itself again to my notice, in the persons of two men engaged in making the works of clocks. Patissier also observes the green tint of the complexion, eyes, tongue, hair, excretions, and even clothes, of the brass-workers.

With regard to the general symptoms caused by the bronze, assuming copper to be the poisonous ingredient, I must speak with deference, when I find such men as Christison, Paris, and Pereira, doubting if metallic copper is a poison; when Drouard's experiments, and the numerous instances in which copper coins have been swallowed without producing injurious effects, seem to confirm their doubts; and when the great oracle of poisons, Orfila, boldly asserts that metallic copper, however finely subdivided, is not to be included in the number. Pereira, however, allows that when oxidized it would have a poisonous action, and Portal, Cothenius, and Barton, record the effects produced by swallowing metallic copper.

Indeed, it is questionable if any metal, retaining its true metallic form, can be a poison; but it may be asked, is it possible for a metal to be reduced to a fine powder in a hot state, or even when cold, without attracting more or less oxygen, and undergoing chemical change during the process of trituration? or if any metal easily allowing oxidation, introduced into the living stomach (of the chemical actions going on in which viscus we are very ignorant), can be expected to retain its original metallic form?

The general, or constitutional symptoms I would briefly enumerate as follows:—The constriction of the œsophagus, tenderness of the epigastrium and bowels, loss of appetite and rest, vomiting, constipation, and general febrile state of the system. I find most authors record salivation as an effect of copper, and think it very possible that the salivation complained of by the men at the Sun office was caused by that metal. Such I feel may have been the case, though I was at the time inclined to scout any idea of the kind, not at all giving credence to the statement of the workmen, that the bronze contained mercury, nor being aware at the time of the existence of such a quality in copper. Some of the symptoms here mentioned as constitutional may be considered by others as local, and referred to the mere mechanical and irritating action of the powder on the alimentary canal, as the anthelmintic effects of the pulvis stanni are accounted for by the irritation excited by the finely-subdivided metal.

My friend, Dr. Arthur Farre, was so kind as, at my request, to examine the bronze with his powerful microscopes. The specimens selected for that purpose were portions of the two powders which A. B. had brought, as it appeared possible that the violent effects of the cheaper sort might be caused by its not being so finely pulverized as the other. Such, however, does not seem to be the case, as no difference is perceivable in this respect; nor though that which cost 35s. per lb. appeared to the naked eye paler than that at 60, did the same character hold good beneath the microscope, and I may add that the different samples of bronze in my possession vary very much in this respect, from a light yellow to a full orange, approaching the blood-red shade of the small Malta orange. The powder, when scattered thinly on a piece of glass or paper, and examined under a compound microscope, with an amplifying power of 200 linear measurement, is seen to consist of thin flat scales of irregular figure. The appearance of these is that of metallic leaf beaten out to the utmost degree of tenuity, and then reduced to minute fragments. Their size varies from about $\frac{1}{200}$th to $\frac{1}{3000}$th part of an inch in diameter, the average diameter being about the $\frac{1}{100}$th of an inch, and smaller even than the globules of blood, according to some calculations.

The scales, though mostly polygonal in form, are mixed with small, very sharp, acicular fragments, the latter not being in a greater proportion than about one in forty or fifty, but still existing in immense quantity in every grain by weight of the powder. These, from their form, would naturally be more irritating than the others; but they did not appear to be more numerous in one sample than in the other, and, consequently, unless a chemical difference exists, it is difficult to understand why the effects of the cheaper sort should be so violent. It will be seen, from the

ticles are extremely minute, and, in consequence, so light as to be capable of floating freely in the air, as I found to be the case in the Sun office. A portion of this bronze being rubbed on the finger so as to give it a golden lustre, and the part being held under the microscope, the particles were then seen to have attached themselves to the ridges and grooves of the cuticle. They might therefore be naturally expected to adhere with the greatest ease, and to prove most irritating where the skin is most rugose, as about the scrotum, where the dust would easily effect a lodgement in the folds of the peculiarly soft and moist skin.

Your obedient servant,

GURNEY TURNER,

Resident Medical Officer to the General Dispensary, Aldersgate Street.

ON PURULENT INFLAMMATION OF THE CONJUNCTIVA.

To the Editor of the Medical Gazette.

SIR,

IN replying to the remarks of Mr. Wharton Jones (in your No. of January the 19th), upon a paper of mine communicated to the Medico-Chirurgical Society, and published in their last volume, entitled, "On a Successful Plan of arresting Destruction of the Cornea from acute Purulent Inflammation of the Conjunctiva," I hope that I shall not be accused of arrogance in differing in opinion from any authority which he has adduced in support of his views of this important subject; and I trust that all who will trouble themselves carefully to peruse the paper itself, and the observations I am now about to offer, will acquit me of having pursued my observations *with the prejudice of a mind biassed in support of a particular view.*

Of the Organization of the Cornea.

1st. Mr. W. Jones appears to object to my assertion, that it is difficult to demonstrate the conjunctival covering of the cornea, and this affords him a good opportunity of shewing his learning on this subject, for which no doubt your readers, with myself, are obliged: my experience as a teacher, however, still causes me to adhere to the opinion which I have expressed.

2dly. Mr. W. Jones considers that I am incorrect in attributing the vascular supply of the cornea to be derived *principally* from the vessels which pass with the conjunctiva. His own statement respecting the conjunctiva is, "that the sclerotic conjunctiva is composed of a chorion, the surface of which is covered by two strata of microscopic corpuscules;" and he further observes, that the chorion is very deficient in connexion with the corneal conjunctiva. "The blood-vessels and cellular tissue at once give us the essential elements of a chorion." Now, allowing that these structures form the conjunctiva, blood-vessels passing in either of them may surely be said properly to pass in the conjunctiva; but I go further, and consider the vessels which pass in the subconjunctival cellular tissue, and which afterwards send branches to contribute to the supply of the conjunctiva, as belonging to the membrane itself; and this occurs in regard to the largest number of the vessels which run between the conjunctiva and sclerotic.

That the cornea is largely supplied by the vessels which pass in or beneath the conjunctiva (independent of the sclerotic), is stated by the two anatomical authorities quoted by Mr. W. Jones. Valentin says:—"The blood-vessels derived from the *sclerotic conjunctiva* run merely betwixt the papillary body and the surface of the proper substance of the cornea," and form, according to Mr. Jones, with the cellular tissue, "the essential elements of a chorion," being therefore a part of the conjunctiva. Römer says, "the fine twigs of the arteries of the *sclerotic conjunctiva* unite together around the margin of the cornea, into a vascular wreath or circle; from this there arise numerous branches, which run from the circumference towards the centre of the cornea, and in their courses make two or three very fine sub-divisions; their *ends bend distinctly inwards*, and appear to *penetrate the proper substance of the cornea.*" These opinions, therefore, tend to confirm that which I have expressed; yet, in spite of these authorities, Mr. W. Jones proceeds to state that they are not corroborated by morbid anatomy or pathological observation. First, from his own experience, and secondly, from that of Mr. Lawrence.

I do not know what opportunities Mr. W. Jones may have had of observing the morbid condition of the eye; but after *decidedly contradicting* my

opinion, he modestly observes, that he will not venture to offer any assertion of his own in contradiction to my views, but proceeds to shelter himself behind Mr. Lawrence, and certainly thrusts forward a very formidable opponent; but one who, I hope, possesses too much professional liberality to expect every one to bow to his opinions, or to be offended with such as differ from him. It is now more than eleven years since Mr. Lawrence quitted the field which gave him such extensive opportunities of observing ophthalmic diseases; and I am sure that he will candidly allow, that the knowledge of the morbid changes in the different textures of this delicate organ was far from perfect, when he gave up, in great measure, the further study of its diseases.

Mr. Lawrence is well acquainted with the progress made in this department of medicine at the London Ophthalmic Hospital, by Mr. Saunders and Dr. Farre, by Mr. Travers and himself; and he is not so narrow-minded as to suppose that his successors have been incapable of making further advance, with such extensive opportunity. I know that many points which I considered as fairly established at the time that Mr. Lawrence and myself were colleagues at the Ophthalmic Hospital have proved erroneous, when tested by further observation and experience.

Let me, however, examine the opinions of Mr. Lawrence, as quoted by Mr. W. Jones. 1st. "The blood-vessels ramifying in the cornea are obviously derived from the *sclerotic trunks.* The conjunctiva often retains its natural paleness while the vessels *under it* are turgid, and the *whole* sclerotic is covered by a plexus of distended ramifications, which form a pink *zone* round the cornea." With respect to the assertion in the beginning of this quotation, "that the vessels ramifying in the cornea are obviously derived from the sclerotic trunks," I must state, that though I have repeatedly endeavoured to trace a connexion between the vessels of the two textures, in corneitis, I have never been able to detect any communication. I have, indeed, carefully examined several cases in the last ten days, and with similar result, though I have had the aid of many sharp and practised eyes, and a high magnifying lens. It is true that the sclerotic conjunctiva sometimes exhibits very little change when corneitis exists; but when vessels filled with red blood are apparent in the cornea (in corneitis), a vessel or vessels distended with coloured blood may be *invariably* found passing in the conjunctiva scleroticæ or subjacent to it (but quite distinct from the sclerotic), which communicate with the vessels apparent on the cornea. Probably Mr. Lawrence has mistaken the position of such vessels, and considered them as belonging to the sclerotic, whereas they are independent of it. The pink zone round the cornea is not always developed in corneitis, and never at the commencement of the disease; but it appears when the disease has been of some duration, and when the whole or the larger part of the cornea and the aqueous membrane have become implicated in the morbid action: it results from a partial injection of the vessels of the sclerotic, and rarely extends beyond a few lines from the corneal circumference: I have never seen it covering the whole of the sclerotic, as Mr. Lawrence states it does.

The next quotation refers to partial corneitis. "On close inspection, this redness (partial) proves to be sclerotic, and the conjunctiva is unaltered; enlarged vessels are seen *on* the sclerotic, and we find minute ramifications extending from them upon the cornea." Here, again, I consider that Mr. Lawrence has mistaken the site of the vessels, which are really passing in the chorion of the conjunctiva or in the subjacent cellular membrane, and are independent of the sclerotic; otherwise the description is perfect.

The last quotation Mr. Jones considers to express more clearly Mr. Lawrence's opinion regarding the source of the blood-vessels of the cornea; and from it I cannot but infer that Mr. Lawrence supposes the vessels of the conjunctiva corneæ and of the cornea itself to be distinct and independent, or he would not have stated that "the enlarged vessels may be those of the conjunctival layer, and consequently superficial, or those of the corneal laminæ, and deep seated." And again, "the deep-seated vessels of the cornea cannot be divided; the proceeding, therefore (dividing vessels in the conjunctiva scleroticæ), could only be beneficial when the enlargement is confined to those of the mucous surface." Mr. Lawrence expresses his opinion thus de-

cidedly respecting the source from whence the corneal vessels are derived, no doubt convinced that he has been able to trace them as described in the first quotation; such has not, however, been the result of my own observation; and if Mr. Jones or any other gentleman interested in this matter will do me the favour to attend at the London Ophthalmic Hospital for a few times, on Tuesday or Friday, at nine o'clock A.M., I feel confident that I shall be able to satisfy him of the correctness of my statements respecting the morbid development of the vessels of the cornea.

Respecting the supply to the posterior part of the cornea, which Mr. W. Jones says I admit (but which I positively assert that I have seen), I am supported by the authority he quotes, viz. Dr. Prout, who also corroborates what I have stated regarding the supply from the conjunctiva anteriorly. Whether the vessels at the posterior part pass in the membrane itself, or in the cellular membrane which connects it to the cornea, I will not dispute. Mr. W. Jones allows that the vessels and cellular tissue between the conjunctiva and the cornea may be regarded as the chorion of the former; and I trust that he will not object to my considering the vessels and cellular tissue between the cornea and aqueous membrane as appertaining to the latter.

I shall now adduce some further pathological facts which I consider as tending to confirm the statement I have made respecting the vascular organization of the cornea.

1st. When an ulcer exists in the cornea anteriorly (which we may suppose to have penetrated deeply into its proper texture), and the reparative process is established, the ulcer begins to fill up by deposit of opaque matter (fibrin); and it is not uncommon to observe in such a case (when the local action is too great) one or more vessels carrying red blood passing to the ulcer, and even penetrating the fibrin: such vessels are invariably derived from trunks which pass with the conjunctiva, and not from any sclerotic or deep corneal vessels independent of those of the conjunctiva.

2dly. Inflammation affecting the sclerotic tunic (sclerotitis), if neglected or maltreated, so as to allow of extension of morbid action, passes to and implicates the iris, and sometimes also the aqueous membrane; but the cornea never directly participates in the inflammation, though it may be indirectly affected if the morbid action becomes severe and continued in the aqueous membrane; and I have seen such a case. On the other hand, when inflammation extends from the iris or aqueous membrane, it passes to the sclerotic, and the red zone around the margin of the cornea (which is considered a diagnostic mark of the disease of the iris) becomes developed. Does not all this prove the free vascular connexion between these parts?—and does not the exemption of the cornea, under such circumstances, shew that its vascular supply is nearly independent of the sclerotic and iris?

3dly. There is a symptom which was first pointed out by the continental ophthalmic surgeons, and considered by them as diagnostic of rheumatic or arthritic iritis (and which opinion has been adopted by most of our authors): it is the appearance of a whitish or ash-coloured line round the cornea, between it and the vessels of the sclerotic, which form a red zone without the whitish circle. This symptom is not, however, really diagnostic of any particular form or modification of disease; the explanation of the appearance is simple, and is as follows:—The mode of junction of the cornea and sclerotic varies considerably; it is usually in a degree oblique, so that the anterior and external part of the sclerotic overlaps the margin of the cornea, and the cornea is in part continued behind the sclerotic: thus, part of the opaque sclerotic covers the margin of the transparent cornea, much as the metal of the watch-case overlaps the edge of the watch-glass. Sometimes the overlapping of the opaque tunic is trifling, sometimes it is very considerable; usually it is uniform all round the cornea, but occasionally it is irregular, being greater at one or two parts than at others: thus it is sometimes considerable at the temporal and nasal borders of the cornea, and but little at the upper and lower parts; and I have noticed the reverse of this. Now, whenever the anterior termination of the sclerotic is prolonged much over the circumference of the cornea, either uniformly or partially, the conjunctiva becomes firmly adherent to a part of the overlapping sclerotic, and the conjunctival vessels contribute principally to its vascular supply in the same way as they afterwards supply the cornea it-

self; and this supply is nearly or quite independent of that which the sclerotic itself receives from other sources. (In the eye of the sheep, the junction of the cornea and sclerotic shews much irregularity in the degree in which the sclerotic overlaps the margin of the cornea, and the firm connexion of the conjunctiva to that part of the sclerotic which is prolonged most over the cornea can be readily demonstrated.) When this anatomical variety in the junction of the cornea and sclerotic exists, and the eye becomes affected by sclerotitis, or by iritis, choroiditis, or aquo-capsulitis, in which the sclerotic participates, and has its vessels partially distended by red blood, the anterior terminal portion of the sclerotic, which is supplied by the vessels of the conjunctiva, remains free from red vessels (being unaffected), and presents a whitish or light ash-coloured aspect. If the overlapping be uniform, the whitish line is regular, and surrounds the cornea; but when the overlapping is partial (suppose at the nasal and temporal sides of the cornea) a crescentic white or ash-coloured line appears in these positions, which is found gradually to be lost as it is traced to the upper or lower parts of the corneal margin. When, however, corneitis attacks an eye subject to this variety of junction of cornea and sclerotic, the reverse of that just described happens, if the vessels of the cornea become at all distended with red blood; for then the part of the sclerotic which overlaps the cornea has its vessels also filled with red blood, and exhibits a highly florid appearance, even when the sclerotic is otherwise white as usual. The florid line at the margin of the cornea is in these cases readily distinguished, from the redness which exists in the cornea itself immediately connected with the part, from its greater depth of colour being relieved by an opaque ground; it is, however, generally partial, and corresponds to the extent of the vascular development in the cornea itself, which is very rarely found to occupy the entire extent of this texture.

It is some years since I discovered this fact, and I have since constantly pointed it out to our pupils, and have no doubt of the correctness of the explanation. It is a further beautiful confirmation of the correctness of my statements respecting the vascular supply of the cornea, of which I trust I have now adduced sufficient anatomical and pathological evidence to satisfy all unprejudiced persons.

Mode of Destruction of the Cornea in Purulent Ophthalmia.

Mr. W. Jones first here accuses me of claiming originality in pointing out the mode in which the destruction of the cornea takes place; yet subsequently he states that I do not claim the merit of being the first to propose divisions of the chemosed conjunctiva as a means of relieving the cornea from risk under acute purulent inflammation; my statement is, "I was aware that incision or excision of parts of the conjunctiva had been suggested and effected in the condition of chemosis, and that the result of such treatment had not been satisfactory; this want of success, however, appeared to me as a consequence of the misapplication of the principle, and not from error in the principle itself." What principle could Mr. W. Jones suppose that I meant? Is it not plain that I referred to relief of the tension and pressure resulting from the chemosis, which was supposed to promote the destruction of the cornea. Again, I have stated that "I was previously aware of such a plan having been proposed and effected; but I trust that I have given a satisfactory explanation of the proper principles and effects of the operation, and shewn that it is adopted on a scientific basis." All I claim, then, is the merit of having made clear that which was previously obscure, and of rendering simple that which was complicated; and I still consider myself entitled to some credit for so doing.

Of the authors cited by Mr. W. Jones, Dr. Mackenzie states, that the destruction of the cornea takes place partly from a mechanical cause, viz "pressure caused by the enormously distended conjunctiva of the eyelids and eyeball;" and again, "pressure of the chemosed conjunctiva, and the consequent mechanical death of the cornea." But he appears to consider that other causes have a material influence in producing this effect. Mr. Middlemore expresses himself more decidedly and clearly respecting the destruction of the cornea, from the strangulation of its vessels which pass from the conjunctiva; but he also

attributes much to the excessively-inflamed state of the corneal conjunctiva, which Dr. Mackenzie supposes to take place in the cornea itself. I have never seen such a condition of cornea or conjunctiva in connexion with acute purulent ophthalmia; nor can I understand how it can take place, whilst the cornea is under the influence of such pressure as impedes its circulation, and threatens destructions of its vitality. Mr. W. Jones himself sums up on the side of Dr. Mackenzie, but I doubt if he will obtain the Doctor's thanks for the lucid explanation he has given of his opinions, after stating that "these are expressions not to be misunderstood." He subsequently concludes this part of the subject, as follows:—"A much more simple (?) and likely (?) way of accounting for the destruction of the cornea is, by the general pressure to which its whole thickness, at the circumference, is subjected, between the unyielding contents of the eyeball on the one hand, and the chemosed conjunctiva and swollen eyelids on the other. This is what is simply expressed by Dr. Mackenzie." Unyielding contents!! If the contents are unyielding, is the globe itself so? Will not very slight pressure cause it to pass into the orbit, where there is such abundance of loose and soft texture, much more than is sufficient to obviate any ill effects from the greatest degree of pressure which tumid conjunctiva and palpebræ could make on the anterior part? Besides, if any texture suffered from such pressure, it would surely be the sclerotic, upon which the pressure must be by far most severe.

My Plan of Treating Acute Purulent Ophthalmia.

After quoting my account of the principle of my mode of operating, Mr. Jones observes, that he "begs it to be distinctly understood that he does not offer any opinion on the comparative excellence of radiating incisions or circular incisions, or excision of the conjunctiva, as a means of relieving tension in chemosis, &c., but immediately proceeds to panegyrise the plans of Scarpa and Sanson, and states that they have not been always so unsuccessful as I would have it supposed. My statement is, that "the result of such treatment has not been very satisfactory:" I have now to add, that my information in this respect was obtained from those who had witnessed the treatment and seen its effects.

There is a very important question connected with this plan of circular incision, which is, the possibility of its perfect adoption in the cases in which operative means are required. Not in any instance which has come under my observation, in which I have considered division of the conjunctiva necessary, could I have excised a portion of the membrane from around the cornea. I have not in any case been able to make the number of incisions that I wished, and when I have been able to make any in the directions between the superior rectus and the external and internal recti, they have been very limited. When the ocular chemosis is complete, the tumefaction of the palpebræ is always so great, that the surface of the globe can be exposed but very imperfectly. Even if it be possible to excise a portion of the conjunctiva to the entire circumference of the cornea, it does not follow from my account that the cornea would necessarily lose its vitality, unless the operator at the same time removed the subjacent cellular tissue, so as to lay bare the sclerotica; for this cellular tissue, I believe, admits of the passage of many vessels to the cornea and its conjunctiva.

The imperfect excision of the conjunctiva scleroticæ, and its subjacent cellular membrane, would of course relieve tension as well as the radiating incisions could do, and yet quite sufficient vascular supply might be left to maintain the vitality of the cornea, but not near so perfect as that which remains after the radiating incisions have been made. Mr. W. Jones may be satisfied that he has *disproved altogether* the *rationale* of my plan of treatment: I cannot: but I may be dull.

Since the publication of my paper several new and severe cases of acute purulent ophthalmia have been treated by my colleagues at the Ophthalmic Hospital—by Mr. Curling, at the London Hospital—Mr. R. Quain, of the North London Hospital—Mr. Perry, of the Foundling Hospital, myself, &c. &c. with perfect success. Mr. Guthrie mentioned to me that he had tried the plan in two cases, but failed in both; he allowed, however, that deep-seated

disease existed in one case, and he was doubtful about the other; and these are the only instances I know of failure.

The perusal of Mr. W. Jones's paper has not induced me to alter my opinions in any respect, and I still maintain that—

1. The cornea is supplied principally by vessels which pass to it in or with the conjunctiva, independent of the sclerotic; that its posterior laminæ have a trifling supply from the vessels of the aqueous membrane; and that it receives little if any supply from the sclerotic.

2. That it is destroyed by mortification, from interrupted circulation, in consequence of excessive tension and pressure from chemosis, produced by purulent inflammation.

3. That the plan I have proposed will prevent the destruction of the cornea, if adopted before mortification has commenced.

I beg further to state, that the plan of operation did not arise in my mind until I had satisfactorily (to some of my colleagues, as well as to myself) worked out the mode of organization of the cornea; and to this statement my colleagues, and many of my pupils, can bear testimony. It has not resulted from prejudice, but it has been erected on a scientific basis, and will, I am confident, stand and obtain the credit it deserves from all men of liberal minds.

In conclusion, I offer my thanks to Mr. Wharton Jones, not for the courtesy or liberality of his remarks, but for doing that which will, perhaps, attract a little more immediate attention to this important subject than would otherwise have been bestowed upon it, and thus promote my wishes.

If Mr. Jones is desirous of pursuing this subject with a proper spirit, I hope he will visit the Royal London Ophthalmic Hospital, in Moorfields, when I will give him all the aid I can in testing the soundness of my doctrines on this subject; and I will not only forgive him, but confess myself under obligations to him, if he will accept my offer. My object is to elicit truth, by which alone our noble science can be legitimately promoted.

With many apologies for so long a communication, I remain, sir,

Your obedient servant,

FRED. TYRRELL.

17, New Bridge Street, Blackfriars,
Jan. 28, 1838.

ON THE NEW VACCINE VIRUS.

MR. ESTLIN'S THIRD LETTER.

To the Editor of the Medical Gazette.

SIR,

As the recent supply of vaccine virus from the cow has excited the attention of many of your readers, and as the demand for it seems likely to increase, I think it may be satisfactory to those who are interested in the subject to be informed, that the new lymph has been sent for use to the National Vaccine Establishment, in order to facilitate its transmission to those members of the profession who may desire to be furnished with it.

The following correspondence contains the communications I have had with the respectable Registrar of that Board; and if not trespassing too much upon your pages, I shall be obliged by its early insertion, both as a matter of information to others, and for the purpose (whatever may be the future fate of the new virus) of placing upon record its history to the present period:—

"To the Registrar of the National Vaccine Establishment, Russell Place, Fitzroy Square, London.

"Bristol, November 23d, 1838.

"Sir,—Being ignorant to what member of the National Vaccine Establishment I ought to address this application, I shall be obliged by your laying my letter before those who have the power of deciding upon the request it contains.

"This request is, that if it be not inconsistent with the regulations of the Institution, and not likely to be attended with inconvenience to those on whom the duty of vaccinating devolves, a stock of the vaccine virus, at present in my possession, which has been extensively used in this city, and circulated through England, may be employed at the National Vaccine Establishment, so that distant practitioners may receive supplies of it, on making the usual application.

"The grounds upon which I consider this virus as presenting claims to the notice of the Establishment, will be seen from the following account:—In August last I visited a farm in Gloucestershire (near Berkeley,) where I saw cows and milkers, and the children who had been

inoculated from the latter affected with cow-pox. I took some lymph from a very fine vesicle produced on the arm of a child by inoculation, with the virus from the hand of one of the milkers, and employed it for vaccination on my return to Bristol. The stock of new virus was thus fully established, and a succession of it is still kept up by many other practitioners in this city, besides myself.

"A statement of these facts is given in the numbers of the LONDON MEDICAL GAZETTE for Sept. 15th and Oct. 20th; and in consequence of these communications to the public, a strong desire has been evinced by medical gentlemen in various parts of the United Kingdom, to possess some of the new virus, and many have written to me for it. I have sent lymph (with a statement of the number of individuals through whom it has passed since it came from the cow) to the following places: Bath, Warminster, Swansea, Oxford, Retford, Bangor, Plymouth, London, (to four different quarters,) Great Malvern, York, Dublin, Gloucester, H. M. ship *Pandora*, (for the colonies,) Langport, Madeira, Berwick-upon-Tweed, Liverpool, Chepstow, Bridgwater, Stafford, Somerton, Falmouth, South Petherton, Kidderminster, Cambridge, (to two surgeons,) Sussex, Newcastle-upon-Tyne, Stroud, Barbadoes, Plympton, Thirsk, Wincaunton, Droitwich, and Sidmouth; to many places near Bristol, and also to Paris, Switzerland, and America, and, upon the application of the Consul General for Portugal, to Lisbon, and to the Portuguese physician of Madeira.

"Under these circumstances I think I am warranted in regarding the new virus as of sufficient interest in the estimation of the medical public, to entitle it to the notice of the National Vaccine Establishment, where more certain means will exist for keeping it up, and greater facilities will be given to its transmission to distant places. I have to acknowledge the polite attention of all who have written to me for it, in saving me from every avoidable expense, and it has been gratifying and instructive to me to communicate with so many intelligent practitioners. But if the demands for the matter continue, as it appears will probably be the case, it may not be in the power of an individual, engaged as I am in general practice, to supply them; and the means of keeping up the virus in this city may be lost. Having done all in my power to promote the interests of vaccination, I might upon personal grounds expect that the National Vaccine Establishment would now assist in relieving me of the duty I have hitherto cheerfully undertaken; but I would rather rest any claim for compliance with my request, upon the accommodation which will be thus afforded to a large number of my professional brethren.

"Should the Board be willing to introduce the new virus, I shall have pleasure in forwarding some which is recent, in any manner that may be desired; and I will send with it a correct statement of the progress of the lymph since it was taken from its original source.

"I ought to mention that the vesicle produced by the new virus has the well-marked characters of the vaccine disease: it is attended with more local and constitutional irritation, and, in the opinion of several elder practitioners, more resembles the vesicle which was met with 20 years ago, than that which is produced by the lymph in ordinary use.

"I am, sir,
"Your faithful servant,
"JOHN BISHOP ESTLIN."

To this letter I received the following satisfactory reply:—

"National Vaccine Establishment,
Dec. 11, 1838.

"Sir,—I have the pleasure to acknowledge the receipt of your communication on the subject of a fresh supply of vaccine lymph. It was conveyed by Sir James Clark to this Board, and immediately taken into due consideration.

"I am instructed to inform you that the president and members fully participate with you in the zeal which you have manifested to promote vaccination. Their confidence in the genuineness of the lymph which they employ remains unshaken, after an experience of many years of its use; but they will gladly avail themselves of your kind offer to make trial of that which has been more recently obtained by yourself from the cow. If you will have the goodness to send us a supply, in any form you please, it shall be used and tested with the greatest care, and I shall

feel gratified in faithfully reporting to you the result.—I remain, sir,

"Your most obedient servant,

"C. Hue, M D.

"Registrar.

"*John Bishop Estlin, Esq.*"

Immediately upon the receipt of Dr. Hue's letter, I sent a supply of lymph from two healthy children to the National Vaccine Establishment, and I was in hopes that by this time the stock would have been sufficiently established to allow of its being forwarded to those who made applications for it; but from the following letter which I have received from Dr. Hue since I began writing this communication, I have reason to fear either that the lymph I sent has not been successfully propagated, or that the supply has been accidentally cut off.

"National Vaccine Establishment,

"Jan. 23, 1839.

"Sir,—I am desired by the Board to request that you will favour us with an additional supply of the vaccine lymph which you have been in the habit of using. It is the wish of the Board to make a further trial of it before they communicate to you their report.

"I remain, sir,

"Your most obedient servant,

"C. Hue, M.D.

"Registrar.

"*J. B. Estlin, Esq. Bristol.*"

In compliance, therefore, with this request, I have sent a second supply of lymph to the Board of the National Vaccine Establishment.

Since my second letter, inserted in your number for October 10, I have continued to watch the progress of the virus. It has lost none of its activity at its present distance of about twenty removes from the cow. If any change have taken place, I would say that the vesicles are more firm and perfect, and less disposed to be broken during the first week, than was the case at an earlier period. Though I find the surest method of propagating the infection from *dry* matter is to rub it upon scratches of very small extent, the *fluid* lymph appears to me to answer best when inserted with a clean lancet into a minute puncture. A *free* insertion of lymph I find most liable to occasion excessive local irritation; and the vesicle produced upon scratches, from the injury done to the skin, is more inclined to break during the first week, than that which follows the introduction by puncture.

Mr. Humpage, surgeon of this city, informs me that since he has adopted the plan of having a piece of cotton wadding so stitched into the child's sleeve as to admit of the vesicle being completely covered with it (the flocculent part being next the skin), he has seldom found the vesicle prematurely broken.

No cases of serious constitutional disorder attending the vaccinations in Bristol have come to my knowledge, though there have been instances of severe inflammation and ulceration in the arm.

From Langport, in Somersetshire, I have received a report, which shews that the new virus has exhibited a character of peculiar severity in that neighbourhood. The following is the result of the vaccinations practised upon 68 children, by Messrs. Michell and Prankard, of Langpont:—

In 52	Cases the progress of the disease was regular.
1	Severe erysipelas.
4	Erythematous eruptions of a violent character.
2	Highly inflamed ulcerated arms.
1	No effect after twice vaccinating.
8	Result unknown; supposed to have been favourable.
68	

One of the patients with erythema, an unhealthy child, two months of age, died. It was vaccinated on the 29th of last December, and as no effect was produced, the inoculation was repeated on the 5th of January. On the 7th, erythema attacked the back, and gradually extended to the feet, never affecting the arms, nor was there any appearance of vesicle. The child had much dyspnœa, with crouping cough, and died on the 21st ult. My correspondent observes:—"I do not attribute its death to vaccination, nor does the mother wholly, as she lost an infant previously, with similar affection of the air-passages, but her neighbours set it down to vaccination entirely."

The case of erysipelas, and the two others of erythema, were serious ones. The attacks came on during the first week, two of them on the day following vaccination. One child had no vesi-

cles*. It may be worthy of mentioning, that an uncle and aunt of the infant that suffered from erysipelas were similarly affected after cow-pox inoculation many years ago. The alarm occasioned by the violent symptoms which occurred in some of these children has induced Messrs. Michell and Prankard to suspend, for the present, the employment of this virus.

I have not yet had the power of inoculating with variolous matter any of the children recently vaccinated, but I have been favoured with a very satisfactory communication from Mr. Halton, House Surgeon to the Chorlton-upon-Medlock Dispensary, Manchester, in which he informs me, that in a family where there were four unvaccinated children, the three elder ones being seized with small-pox, he vaccinated the youngest, who took the cow-pox properly, and was preserved from the variolous infection. The interest felt by this gentleman, and the other members of the profession in Manchester, in the new virus, may be inferred from the fact of his having, at the date of his letter, furnished 71 neighbouring practitioners with supplies of the matter.

And here I would remark, that as far as I have had an opportunity of collecting opinions from the extensive correspondence I have had on the subject, the confidence of the President and members of the National Vaccine Establishment, in the "genuineness" of the lymph they employ and distribute, is not participated in by the profession generally, at least not by their provincial brethren.

I am happy to perceive that the whole subject of vaccination is undergoing in this, and in other countries, some of that searching investigation which its importance demands. We are beginning to discover how much we have to learn respecting it. Careful observation of facts is more needed than theories and opinions. I am unable to feel any of that uncertainty with which some correspondents of the periodicals decide upon the precise time when lymph ought, and ought not to be taken; upon the necessity of re-vaccination, and even the period when it ought to be performed; and upon many other points of much intricacy. I know of nothing in the history of vaccination to warrant the assertion that lymph should be taken before the eighth day, to insure the successful propagation of the disease. I am in the habit of selecting those vesicles round which no areola has formed, for furnishing the lymph for future inoculation; but I am by no means certain that it would prove less effectual if used at a much later period. That the crust has been successfully employed for vaccinating is a well-known fact; nor is it conformable with my experience, that virus taken from a vesicle yielding but a small quantity of fluid is more active than when taken from one exuding lymph in greater abundance.

Most discordant are the opinions, and even the experiments, with regard to re-vaccination; and much patient and unprejudiced inquiry is required, to determine satisfactory results. From the extensive re-vaccinations practised in the Prussian army, when nearly one-half of the soldiers were affected with the regular disease, it has been concluded that the effect of the first vaccination decreases with advancing years, and that the risk of taking the small-pox is proportioned to the distance of time from the first inoculation of cow-pox.

On the other hand, Dr. Neumann, a German physician (quoted in one of the numbers for the last year of the Belgian *Encyclographie des Sciences Médicales*), gives the result of 685 re-vaccinations, and comes to the conclusion that those most liable to be attacked with small-pox after cow-pox are children who have been vaccinated but a few years!

Much discussion has also been taking place as to the proper period for re-vaccinating; but are we in possession of evidence adequate to prove that a second vaccination has more power to protect the constitution from an attack of small-pox than the first introduction of the cow-pox into the system? Two cases of small-pox after re-vaccination have lately come to my knowledge; one of them proved fatal, though the patient, a young gentleman of 17 years of age, had gone through a satisfactory re-vaccination only four months before he died from the variolous attack.

To these, and to similar inquiries, as

* Having had the opportunity of seeing three of the cases referred to, I can testify to the severity of the inflammatory attacks.

well as to the probable deterioration of the virus by passing through a great number of human beings, many of them probably affected with constitutional ailments, I trust an attentive consideration will now be given. Those objects of inquiry of most importance were ably touched upon by Mr. Dodd, of Chichester, at the last meeting of the Provincial Medical Association, at Bath; and I cannot but indulge the hope that the Vaccination Section appointed on that occasion will afford valuable service in the department for which it has been selected.—I am, sir,

Your obedient servant,

J. B. Estlin.

Bristol, February 1, 1839.

ON THE INCREASING

PREVALENCE OF SMALL-POX AFTER VACCINATION.

By John Roberton, Surgeon, Manchester.

I have remarked, for some years back, the existence of an impression—an impression rather than an opinion—which is rapidly extending in society, that vaccination is now less a protection against small-pox than it was fifteen or twenty years ago. On so important and keenly controverted a point I will not at present pretend to speak; but there is one fallacy entwined with this notion or impression which I may allowably mention, as I have not seen it noticed elsewhere, although I do not affirm that it may not have been noticed. Indeed, the fallacy is so obvious, that I can hardly suppose it has not been detected again and again. Before saying what it is, however, I would ask—do those who affirm that cases of secondary small-pox are more frequent than formerly, mean that a larger percentage of the persons vaccinated takes small-pox than was the case formerly, or merely that the number of instances occurring annually is greater than formerly? If they mean that a larger percentage of the vaccinated is seized with small-pox at the present time than there was fifteen or twenty years ago, where, I should like to know, are the facts to prove this? Where are there any facts whatever upon which to rest a conclusion so vitally important? and, if there be, who collected them, and where are they to be found? That many more cases of modified small-pox occur at the present time than twenty years ago, I admit; nor will any one deny a fact so notorious. But the fallacy I alluded to consists in assuming that, because more cases every where occur, therefore an increasing percentage of the vaccinated is losing protection—an inference, I imagine, altogether unwarranted, in the present state of our knowledge. The following extract from a Spanish colonial journal, of recent date, will more clearly exhibit this fallacy than any thing I can pretend to write. Care has been taken to give a literal translation:—

"The island of Barataria contains 10,000 inhabitants, and the population is said to be stationary, as, indeed, has been the case for half a century and upwards. No strangers during that period have entered it as settlers, nor have any of the natives emigrated. The births and deaths, it is to be inferred, therefore, are equal. The police of the island is wonderfully exact in several respects, but chiefly in the care taken during many years to have the inhabitants at an early age inoculated for small-pox. Every child who lived to the age of a few weeks was inoculated. But the King of Barataria, an enlightened prince, readily adopted the Jennerian discovery; for he decreed, that on the first day of January, 1805, vaccination should be substituted for inoculation, the operation to be performed about the same age as it had been for the latter. As the police was humanely vigilant, not a single infant could escape being vaccinated. Great was the satisfaction of the inhabitants on finding they had exchanged a loathsome disease for one so mild: and in the first emotions of gratitude they sent to Jenner, in the name of their king, a valuable present of oil, worth upwards of 2000*l*." (Dr. Baron appears to have been ignorant of this munificent act of a poor but grateful people towards the benevolent Jenner, for I do not find it recorded in his recently completed 'Life.') "At considerable cost, also, they erected a monument to his honour in the market-place of their chief town.

"For several years the cow-pock maintained its reputation unsullied. True, indeed, one or two cases of small-pox, in those alleged to have been vaccinated, occurred, raising some consternation at

first; but these were, on what seemed good evidence, traced to the carelessness of Doctor Josephus a Doloribus, the authorized vaccinator for the district of Lavajoz (where all the supposed failures had taken place), who was, in consequence, condemned to receive the bastinado, and to lose his left hand. In 1810, however, the son of one of the grandees, who had been carefully vaccinated by the King's physician, was seized with small-pox, and with such severity that he remains pitted to this day. From that time to the present, instances of small-pox after vaccination have occurred, and with increasing frequency. In 1834, the numbers attacked in different quarters of the island were so considerable (about twenty in all,) as to lead to the issuing of a royal commission, to make full investigation and report to the King. This was the more necessary, because of the great number of conflicting pamphlets published on this question by the doctors of medicine, whereby the minds of many were unsettled, and faith in the vaccine discovery considerably shaken. These writers differed widely in opinion among themselves. One maintained that the vaccine virus when inserted into the arm of an infant by scratches made with the horn (*antenna?*) of a beetle, affords complete and permanent protection against small-pox. Another attributed the failures to the virus not being taken from the pock at a proper time; asserting that it should be taken, not exactly on the eighth day of the pock's age, but after eight days and one hour. A third thought that new matter ought to be raised from the goat, from time to time, by inoculating that animal with the virus of small-pox. A fourth pronounced vaccination to be of no use or value whatever. The opinions of the rest it is needless to give. We will not trouble our readers with more of the commissioners' report than what refers to one or two points, and chiefly to one comprised in the following question:— 'Since it cannot be denied that instances of failure in reference to the power of vaccination to afford protection against small-pox, have occurred in this island, and are becoming more frequent than formerly, can such a fact be explained on grounds which do not seriously affect the credit of the Jennerian discovery?' In reply, the commissioners remark that too much has been expected from the vaccine discovery, (if, in truth, it be possible to overvalue a discovery so fraught with blessings to mankind); that unquestionably the having passed through one attack of natural small-pox never did absolutely shield, in all cases, the same individual from a second, and therefore to expect from vaccination complete protection against small-pox, in all constitutions, is unreasonable; that, however, vaccination does appear to protect in most instances, probably in ninety-five out of every hundred persons vaccinated; that when it fails in affording protection, it in general lessens the violence of the subsequent attack of small-pox; and, lastly, that with respect to a steady annual increase in the number of cases of failure, as alleged by several eminent doctors, such was to be expected: the number of vaccinated persons in the island being annually on the increase, of course *a larger proportion* of the population annually becomes *liable* to modified small-pox. Indeed it must be self-evident, the commissioners remark, that so long as vaccinated persons are being continually added to the previously existing numbers of the vaccinated, failures may be expected, in the same ratio, to increase. As such statements admit of tabular illustration, the commissioners have prepared the following tables, with a view to illustrate their meaning:—

Table 1*st.*

Shews the number of the vaccinated alive in the island of Barataria, at different periods, from 1806 to 1835.

Anno Domini.		
1806	the vaccinated then living were	286
1808	.....	713
1810	.....	1172
1815	.....	2186
1820	.....	3179
1825	.....	4087
1830	.....	4921
1835	.....	5690

Table 2*d.*

Assuming that five per cent. of the vaccinated are liable to small-pox (and there is no evidence to prove that even so large a percentage is liable), the following table shews the number of cases of modified small-pox that would have occurred in the island at each period, from 1806 to 1835, provided all had been seized who were liable:—

Anno Domini.		
1806	the number seized with modified small-pox was	14
1808	.....	35
1810	.....	58
1815	.....	109
1820	.....	158
1825	.....	204
1830	.....	246
1835	.....	284"

(The same mode of calculation might be applied to London, were the same particulars regarding its population as well known as in the case of that of Barataria. But this is not to be expected. Suppose—and supposition is my only resource—the number of vaccinated persons alive in London in 1806 to have been 10,000; the number in 1810 to have been 100,000; in 1820, 300,000; in 1830, 500,000; and at the present period 800,000, we may understand, even if the numbers here mentioned are considerably wide of the truth, how more cases of secondary small-pox occur in London now than occurred twenty years ago, without needing to assume that an increasing percentage of the vaccinated is becoming liable to the infection of small-pox.)

"Concerning the question now so generally agitated, whether the vaccinated, after a certain interval of time, cease to enjoy protection against small-pox, and hence ought to be vaccinated afresh, the report is full, rather than satisfactory. The commissioners say that hitherto, on this part of the inquiry, we have had assumptions and conjectures, but no well-ascertained body of facts; for, first, it is not fact, but conjecture, that the protective power of cow-pock gradually ceases in the human system; second, it is not fact, but conjecture, that a person successfully re-vaccinated is less liable to small-pox than he was before; and third, to affirm that when re-vaccination fails in individuals they are *thereby proven* to be secure from small-pox, is still, in the present state of our knowledge, to affirm what is mere conjecture. The report concludes in these words:—'In order fairly to test the use and value of re-vaccination, we recommend that registers be kept by the medical staff of every regiment and ship of war, as also by the heads of all public schools, academies, and colleges, in which the names of the vaccinated shall be inserted in two separate equal classes; that the one class consist of such as are not to undergo a re-vaccination; the other, of those who shall be re-vaccinated as soon as registered. At the end of every seventh year the results to be ascertained—that is, whether the re-vaccinated class is wholly protected against small-pox, or protected in a larger proportion (and if so, in what) than the other class. Various other methods of investigation and experiment will, no doubt, be necessary. We have here, as we believe, indicated the true line to be pursued, by which, ultimately, valuable data may be obtained. But it is a capital error to suppose, as many do, that a really valuable and trustworthy body of facts will be *soon* accumulated, under even the most favourable auspices; or that any valuable results whatever, on a question demanding inquiries and experiments so extensive as this, will ensue from private, isolated, individual efforts. Rather, it may be expected, judging from all former experience, that such separate, petty efforts, by their jarring and discrepant results, will retard the progress of true inquiry.'"

ESTIMATE OF VACCINATION.

To the Editor of the Medical Gazette.

SIR,

PERHAPS the inclosed observations may not be without interest, at a time when vaccination is forcing itself so much on general attention.

Your obedient servant,

R. I. POLLOCK.

7, Bath Place, Kensington.

In considering the important subject of vaccination, three questions ever present themselves before us:

1st, Has vaccination really lost some of its power as a protection against small-pox?

2d, To what extent has its efficiency diminished?

3d, The best means of restoring or improving this protecting power?

The voice of the public and the profession has alike answered the first question in the affirmative.

The second is a more difficult question; every day's experience shews that small-pox after vaccination is of frequent occurrence; but in what form does it occur? Do we find any thing

like the severe cases of small-pox described of old; and striking such terror into the minds of communities that whole villages were placed in a state of blockade the moment its appearance was known? Certainly not.

So mild is it generally that the French have applied the term *varioloid*, for I presume that "varioloid" is small-pox modified by previous vaccination running an imperfect course of six or seven days, with scarcely any constitutional symptoms at all; the pustule leaving no vestige of a mark behind. We do, however, occasionally meet with a more severe form, in which the eruption may be confluent, the constitutional effect considerable, and marks of the pustules continuing some time, with even slight permanent indentations. Out of not less than 600 vaccinations, in the course of ten years (chiefly amongst children in the immediate vicinity, so as to be under continued observation,) no such case has occurred; any cases in children vaccinated by myself have been extremely mild; none has occurred under six years after vaccination.

Three severe cases I have seen—all in adults; in each there was the mark of vaccination which had been performed in infancy or childhood. The most severe of the three occurred three months since, in a female aged 25. The eruption was universal, and confluent; the fever was very severe. The mucous membranes suffered alarmingly during the first few days of the eruption, especially the fauces and larynx; yet even in this extreme case, I shall ever believe that her vaccination saved her—for on the eighth day maturation was perfect, the fever rapidly declined, the pustules shrunk, so that the eye-lids, which had been perfectly closed on the 6th and 7th days, were again opened, and on the tenth day she was clearly free from danger; sat up in bed, took nourishment, and escaped that accession of fever which always attends the acmé of the eruption in true small-pox, in the totally unprotected. Facts, such as these, shew us that vaccination, at the worst, is still a valuable prophylactic. The French and German tables recently published shew that small-pox after vaccination occurs in a direct ratio to the length of time which has elapsed from the period of vaccination.

The third question divides itself into several others:—

a. Can we suppose a disease likely to change its character? have we proof of such degeneration in other cases?

b. Can the vaccine vesicle be injured or interfered with in its progress, so as to alter the character of the disease?

c. Does the system ever really receive the second vaccination, and develope a perfect vesicle?

d. How far is vaccination a protection?

e. How far is "varioloid" a protection?

f. What is the best period to take lymph from the vaccine vesicle?

g. Is it requisite to have recourse to the original source, the cow?

a. Syphilis is said to prove the affirmative, but it may be fairly doubted whether it is not rather the improved treatment which appears to have modified that disease. Measles, scarlet fever, hooping-cough, &c. offer no evidence in support of such a view.

b. A circumstance occurred very recently which bears upon this point.

I took lymph from a healthy infant on the eighth day, (Thursday to Thursday), and vaccinated a child two and a half years old. The vesicle formed, but as frequently happens in children of that age, was scratched, and so irritated, that, on the eighth day, instead of a fine supply of lymph, it was broken, and contained a fluid more like pus; and ran an imperfect course. The sister of this child was vaccinated from it, however, and the arm rose, but very imperfectly; and fluid taken from the second case, on the eighth day, failed altogether to reproduce the disease in another child. This was the last of a series of cases vaccinated by lymph I had obtained from Mr. Estlin, of Bristol. This fact would seem to shew that the vesicle may, by irritation, be altered so as to diminish its power of reproducing the disease; and it is not too much to suppose that the same cause may diminish its protective effect on the constitution in which such interference occurs. It shews the advantage of vaccinating early, before the child has acquired sufficient intelligence to disturb the vesicle.

c. The kind of vesicle presented in a successful vaccination varies in different cases, from a mere papula, dying away after the fourth or fifth day, to a large irregular vesicle on an angry inflamed base, running a course very similar to a

first vaccination. The earlier the second vaccination is performed after the first, the less is the effect produced; but I have never seen a true and perfect vaccine vesicle in a second vaccination; it is generally much larger, irregular in size, and presents a more angry and extensive kind of inflammation,—extremely well described in Dr. M. Hall's Lectures, published in the Lancet.

d. Seven years since small-pox prevailed extensively, and occurred in many families where all the members had been vaccinated, running in its mild form through them; it was not then customary to revaccinate, and the disease ran on unchecked from member to member, through several families of protected persons.

Lately, when a first case has occurred in a family the others have been immediately *re*-vaccinated, and hitherto with the invariable effect of stopping the further progress of the disease.

e. It would be interesting to know how far the "varioloid" disease is a protection against any further attack of small-pox. On this head I have no where seen any information.

f. It is remarkable that Drs. Jenner, Pearson, and Woodville, the best authorities, appear to have attached no importance to this point. On looking through their works of 1790, 1798, and 1799, I find no precise directions. Dr. Jenner, in *most* of his cases, omits to say on what day he took lymph; in two or three only he mentions the eighth.

I have noticed that where lymph has been taken before the vesicle was fully complete (say the sixth or seventh day), a weak and languid vesicle has been produced in the subject vaccinated from it; and that when lymph has been taken late in the disease (say the ninth, tenth, or eleventh day) it has failed in most cases altogether. The usual, and, I believe, the best, practice is to take lymph as soon as the vesicle is perfect, and just as the areola is commencing; which, although it may vary a little, will generally be found to be on the eighth day (the day week after the vaccination). When the lymph has a purulent character it is not fit for use.

g. With respect to the last point (*g*) we are much indebted to Mr. Estlin, of Bristol, for his zealous exertions to spread abroad a supply of lymph obtained from the original source—the cow. For a year past I had observed that most of my vaccinated arms had presented a much more severe degree of inflammation, and a more angry vesicle, than in previous years. I looked on this as a fault, and rejoiced exceedingly at the prospect of getting a new stock. I wrote to ask some from Mr. Estlin, of Bristol, who kindly sent me a supply, ten removes from the cow; at the same time mentioning that he found a greater degree of inflammation accompanying the new cases than he had observed in his old ones, and which he looked upon as a *new* and valuable feature in the new lymph.

I received this lymph on the 24th of October, and immediately vaccinated a fine healthy child, two months old, at the same time vaccinating another with some of the old stock—the transmitted lymph. I continued this plan, comparing the cases from day to day, but cannot say, upon the whole, that I found any marked difference in the appearance; *both* certainly presented much more inflammation than I had been accustomed to witness until within the last twelve or eighteen months. In some cases I thought Mr. Estlin's lymph produced a more active and a more early areola; but I had observed at different times, in the transmitted cases of my old stock during the past year, as great an amount.

Some of the lymph of Mr. Estlin's I gave to Mr. M. He raised a supply, but informs me that he found the inflammation so severe that he dared not venture to continue it, and gave it up. In one case which I saw with him, each vesicle had sloughed, and left a small excavated ulcer, which had only just begun to granulate at the end of the third week. These facts would lead us to infer that the new lymph produces a more active disease than the transmitted, but I still must repeat that I think I have seen just as severe cases from the old lymph, *though only within the last year.* I state the fact, but can offer no explanation.

I have unfortunately lost the supply of Bristol lymph, as mentioned before (*b*). I have, however, kept a register of the fifteen cases vaccinated with it, in case any particular occurrence should render it necessary to refer to them. It would, of course, be the work of years to establish any comparison between the efficacy of lymph fresh from the cow and that transmitted through the human

subject, as a protection against small-pox. Upon the whole, there can be no doubt that vaccination affords a valuable protection against small-pox, and that re-vaccination is a measure of prudence and efficacy, although the time at which it becomes requisite is as yet undecided: perhaps the popular opinion of once in seven years may answer until we have more precise knowledge.

DROPSY IN THE FŒTUS.

To the Editor of the Medical Gazette.

Sir,

The following cases of dropsy and peritonitis in the fœtus were observed during the past autumn, at the Dublin Lying-in Hospital, which institution affords opportunities for investigating the diseases both of women and children, far surpassing those presented by any other in the kingdom. I am induced now to forward them to you for publication, if you consider them worthy of it, from the fact of there not having been any cases of peritonitis in the fœtus recorded by English writers before the appearance of Dr. Simpson's excellent paper in the Edinburgh Medical and Surgical Journal for Oct. 1838, and of those which Dr. Simpson relates, eight only appear to have come under his own immediate notice.

Unfortunately, the notes of Case I. are rather incomplete.—I am, sir,

Your obedient servant,

Charles West, M.D.
Graduate in Medicine and Surgery of the University of Berlin.

33, Tavistock Place, Tavistock Square, Jan. 28, 1839.

Case I.—On the 2d of September, 1838, Mary Bexhan, a healthy-looking young woman, 22 years old, and who had been married nine months, was admitted in labour with her first child. She stated that she had enjoyed good health from her infancy, though during the last two months of her pregnancy she had suffered much from sickness. Labour had commenced at 2 p.m. on the 2d of September, and twelve hours later the membranes ruptured, but the uterine action continued feeble, and the os uteri rigid and undilated, from an infiltration of serum into its substance, and especially into the anterior lip. Several punctures were made in the os uteri with a lancet, and the woman was put under the influence of tartar emetic; by degrees the parts relaxed, efficient labour pains came on, and at nine o'clock in the evening of September 4, the patient was delivered of a still-born child, the fœtal heart having been inaudible for the last twelve hours, though at the commencement of labour the placental souffle, and fœtal heart beating at the rate of 160 times in the minute, were both distinctly heard.

The body was examined eighteen hours after birth; the epidermis was then peeling off the extremities, the face was much congested, and there were several vesications on the face and buttocks.

The integuments generally were anasarcous, and both the chest and abdomen contained a large quantity of serous fluid; the lungs were exceedingly dark in colour, with a few black spots upon their surface, which are usually regarded as evidences of the previous existence of pneumonia in the fœtus. Both ventricles of the heart were full of blood, but in the other viscera no peculiarities were discovered.

Case II.—Mary Reilly, aged 28 years, was admitted in her seventh labour, at noon on the 2d of September, 1838, and at 4 p.m. on the following day was delivered of a male child, which made a few efforts at respiration, and then died. At the commencement of labour the placental souffle and fœtal heart, pulsating 120 times in the minute, were detected. On asking the woman her history, she said that she had come to the hospital hoping that she might have a living child, for she had given birth to five dead children within the last nine years. She said that her first three children had been born alive; that she then became again pregnant, and was delivered of twins, which were born dead, and much distended by fluid, for which she could adduce no other cause than the circumstance that she herself had suffered much from dropsy during the latter months of her pregnancy. Since then she had borne three children (twins once), all dead, and distended by fluid, she herself having enjoyed good health in the intervals of pregnancy, and up to the sixth month of utero-gestation, when she always became anasarcous, and continued so till after deli-

very. During her seventh and last pregnancy, she had been put on a regular plan of diet, using dry food, as oaten bread, &c., and avoiding all succulent vegetables, which, without preventing the anasarca, had greatly injured her general health.

On inspecting the body, 72 hours after death, the integuments were found anasarcous, especially those of the face, hands, and scrotum, and presented many livid spots and ecchymoses (like purpura hæmorrhagica), which were most abundant on the face, though there were a few on the trunk and extremities.

Head.—Integuments infiltrated with serum; extravasation of blood in spots between the pericranium and skull, like that on the surface of the body; membranes of the brain much congested. In the brain was nothing remarkable.

Chest.—There was some fat beneath the integuments; the pleuræ contained a small quantity of fluid; the right lung was light-coloured, crepitant, floating in water; the left sank, was dark, congested, and did not crepitate; and both lungs were infiltrated with serum. The pericardium contained a small quantity of straw-coloured serum; the heart was natural.

Abdomen contained nearly a pint of serum, tinged with blood; a large flake of lymph was floating in the fluid. The peritoneum was opaque, much thickened, as if from old inflammation, and rather congested; the intestines, also, were much congested. The stomach presented some large petechial spots towards the pylorus, and an ecchymosis of some size extended along its great arch; petechiæ, few in number, and intermixed with patches of congestion, were found along the first third of the small intestines; the kidneys also were spotted with petechiæ. The liver was large and congested; the gall bladder full; spleen large; other parts natural.

Case III.—M. A. Nelson, a healthy-looking married woman, was admitted in labour with her first child, on the 31st October, 1838. She considered that she had only reached the seventh month of pregnancy, but could not account for her premature labour, since she had continued to enjoy the most undisturbed health during the whole time, with the exception of three months ago, when she came from Sligo, and endured much fatigue on the journey. The first stage of labour proceeded very slowly, the uterine contractions being few and feeble until the 3d of November, on which day, at 6½ P.M., the membranes ruptured, and an hour afterwards a female child was born, which made two or three feeble movements, but never breathed. On the previous day, at 2 P.M., the fœtal heart had been distinctly heard.

Thirteen hours afterwards the child was examined. Its small size, and the undeveloped condition of its nails, indicated that it had only reached the seventh month. The extremities were wasted, the abdomen tumid, and the superficial abdominal veins enlarged.

The brain and spinal cord presented no morbid appearance.

Chest.—The lungs were dark-coloured, solid, sinking in water; there was no unnatural appearance of the pleuræ, nor any effusion into the chest, but two long and soft filamentous adhesions existed between the pleura covering the lower lobe of the right lung and the walls of the chest. The heart was natural.

Abdomen contained about ℥iij. of bright straw-coloured fluid; the peritoneum was opaque, and connected to the convex surface of the liver by long thread-like adhesions; the right lobe of the liver was entirely coated with lymph; the left lobe was also covered with lymph, though less completely. The spleen was firmly adherent to the peritoneum lining the abdominal parietes, and, as well as the stomach, was invested with lymph; long and tolerably firm adhesions also existed between the stomach and peritoneum. The omentum and mesentery were very vascular, but the intestines presented no unnatural appearance.

These three cases present this feature in common—that in all the child was ascertained beyond doubt to be alive at the beginning of labour; though none of the children survived their birth for any length of time, and only one made an effort at respiration. Two of the children were the products of a first pregnancy; while in the third instance the woman had previously borne several children, many of them dead: but in none of the cases could the most careful investigation detect the existence of any syphilitic taint in the mother. In case 1, local œdema, and in case 2, general anasarca existed in the mother; but in

case 3, nothing had occurred to disturb the mother's health, except her fatiguing journey three months before delivery, which, however, one can scarcely connect with the disease in her infant, especially since the appearances found after death would indicate the disease to have been more rapid in this than in the other cases. In cases 1 and 2, the placenta was examined, and found unusually large, but thin, and the great development of its venous structure was very remarkable. With regard to the petechiæ described as existing in case 2, they have been but very rarely observed by the writer, though through the kindness of Dr. Evory Kennedy he had an opportunity of examining all the children that were still-born, or which died in the hospital; and on referring to "Graetzer, Die Krankheiten des Fœtus: Breslau, 1837," § 15 and 16, but few cases will be found on record, though Cruveilhier, whom Dr. Simpson quotes, speaks of it as by no means unusual. Next to Dr. Simpson's invaluable paper, the above-mentioned work of Graetzer is worth consulting, for although it contains but little original matter, yet one finds in it a very good and laborious collection of whatever has hitherto been written on the diseases of the fœtus.

ON THE RECTI MUSCLES OF THE ABDOMEN.

To the Editor of the Medical Gazette.

Sir,

Perhaps you will allow me to say a few words in answer to your correspondent of last week, J. C. C., who has given Mr. Mayo's opinion upon the uses of the tendinous intersections of the recti muscles. I wish to do this, as my paper, which was published in your journal of December 15, was the first to introduce the subject.

I have carefully read J. C. C.'s communication, and can only come to the conclusion that the opinions contained in it are (as far as they go) to be found in my paper, only expressed in different words. I shall quote two or three passages to prove this. He says, "that in certain positions of the body the recti describe a curve, and have to maintain or increase that curve while they are in action. When the trunk is bent forwards, in a spare person, the recti represent a curve, having its concavity forwards. When the body is in this posture, not only may the recti be in strong action, but in general their agency is immediately employed to produce the posture." The passage in my paper runs thus:—"The recti muscles of the abdomen are the only ones in the body that have to keep up their tension, at the same time that the direction of their fibres is altered from a straght to a *curved* line, by which the anterior portion of the muscle is rendered concave, and the posterior convex; for the muscles must take this altered shape before they can have any effect in compressing the viscera, which is their chief office." Now, the only point of difference in these two passages is, that the one says the recti are employed to pull the trunk forwards, while the other says they are employed to compress the viscera. The mode of action of the muscles is the same in both. Again, with regard to the manner in which this action in the muscle is produced, your correspondent says, "To meet this peculiarity the recti are *jointed* by tendinous intersections, which, when braced tight by the fibres of the internal oblique, with the tendon of which they cohere, allow the intervening portion to describe arcs of segments of the entire curve, and permit the whole to become concave forwards, while its several parts are shortening, and perhaps straightening." The passage in my paper runs thus:—"Now, in order to allow of the recti muscles doing this, I believe that their anterior portion, which is rendered concave, should possess a greater power of contracting than the posterior; *and this, I think, is gained by means of these tendinous intersections which we find placed on the anterior part of the muscle only.*" I have then given a diagram, which any one can see distinctly *joints* the muscle, though I have not made use of the word "*jointed;*" and this appears to me to be the only difference between Mr. Mayo's opinion and my own—namely, that he makes use of the word *jointed*, and I do not. Again, the opinion quoted says, that the recti are more capable of action at their "upper halves" than at their lower; and that "this power of partial action is again obtained for these muscles through their adherent tendinous intersections." The

passage in my paper runs thus:—"Now in order to keep up the true degree of tension, when the muscle takes this altered shape, I believe that it must contract more at its anterior than posterior part, and *more at its most concave part, which is between the umbilicus and ribs; and this is the part where the tendinous intersections are chiefly* placed." Now this passage certainly implies "partial action," for I say it contracts more between "the umbilicus and ribs," and I infer that it is owing to the tendinous intersections, for I say, "this is the part where the tendinous intersections are chiefly placed."

In conclusion, I must refer your correspondent, J. C. C., to my paper again, (I presume he has already seen it,) and I think he will find nothing in the opinions which he quotes, but what is contained in mine, which were published a month previously; he will, however, find more in mine, for I have attempted to explain why the tendinous intersections are placed on the anterior part of the muscles only, and why the sheath does not adhere posteriorly as well as anteriorly. Hoping that you can find room for these additional remarks in your valuable journal,

I remain, sir,
Your obedient servant,
EDWARD F. LONSDALE.

82, Guildford Street, Russell Square,
Jan. 27, 1839.

ON THE BANDS IN THE RECTI MUSCLES.

To the Editor of the Medical Gazette.

SIR,

YOU will greatly oblige me by allowing a place in your valuable journal to the following observations on the letter of J. C. C., in the MEDICAL GAZETTE of Saturday last, containing Mr. Mayo's judgment on the subject of my communication in your number for the 12th inst. viz. the action of the recti muscles of the abdomen.—I remain, sir,

Your obedient servant,
JOHN SNOW.

54, Frith Street, Soho,
Jan. 28, 1839.

Mr. Mayo gives us two uses for the tendinous intersection of the rectus abdominis: first, "that in certain positions of the body the recti describe a curve, and have to maintain or increase that curve while they are in action." The only action a muscle has, is to shorten itself, and in doing so, whilst it is attached at both ends, so far from maintaining or increasing a curve, its tendency evidently must be to become straight; and unless the rectus were retained in the curved form by other muscles, it could never act either on the thorax or pelvis, except when straight. After shewing that this curved form does occur, it is stated that these tendinous intersections "when braced tight by the fibres of the internal oblique, with the tendon of which they cohere, allow the intervening portions to describe arcs of segments of the entire curve, and permit the whole to become concave forwards, while its several parts are shortening, and perhaps straightening." This does not explain the use of those tendinous intersections, for the tendon of the internal oblique, together with those of the external oblique and the transversalis, forms a sheath for the rectus, one half of which passes in front of it, and thus when those muscles are in action they not merely permit the whole," but they compel the whole "to become concave forwards," and would do this just as effectually without these intersections as with them.

If it were necessary to add analogical inference to direct proof, I might remark that there are many muscles without tendinous intersections which act whilst they are curved, as the muscles of the spine occasionally, and the transversus abdominis and diaphragm at all times, and that these intersections exist in the rectus of animals in which the muscle never forms a curve towards the viscera.

The other use we are given for these tendinous intersections is, that they enable one portion in length of the muscle to act occasionally without the other. Now since many of the fibres dip behind each intersection, and are continued to another one, so that no intersection divides the whole of the muscle, it is impossible to conceive how one part of the muscle can act without the rest. Mr. Mayo gives us an instance of this particular action, the gymnastic feat of raising the body by the hands, and states that the upper halves of the recti pull "the lower part of the body upwards, as if they drew upon so many belts, which are fixed and girded by the action of the oblique and transverse. The lower

halves of the recti are at the same time in moderate action." Surely the muscles would raise the lower part of the body more effectually and comfortably by drawing upon the pubes than upon these belts, and I have examined the recti of a man during this feat, and found them as hard as a board throughout their whole length. However, this action is not exerted for the purpose of pulling up the lower part of the body; this is in the same piece with the upper part, and needs no such pulling upwards, and any action between the chest and lower part of the body would no more lessen the weight to be raised by the arms and shoulders, than a person standing in a balance would lessen his weight by lifting up one leg, or pulling at the cord of the scale, or any other manœuvre. This action of the recti, in addition to assisting to steady the chest, a measure necessary in all powerful actions of the arms, is exerted to draw the lower part of the body forwards, and make it project beyond the pole, to balance the upper part which is on the other side, and keep the certain gravity of the body on the same perpendicular plane with the pole, that the arms may simply have to raise the weight of the body, without the disadvantage of its being at the further end of a lever; the necessity of which is seen by the impossibility of raising the body without allowing the legs to project under the horizontal pole, or of pulling it up the side of a wall, without touching the wall with the legs or feet.

So far, then, I am fully borne out in repeating the remark with which I closed my last letter, not "denying any use in the arrangement," as J. C. C. states, but saying that "I do not think these tendinous bands execute any important office."

These bands exist, I believe, in the rectus of all animals down to reptiles. Carus says that the frog is without the transverse tendinous ligaments belonging to fishes and salamanders, and the only vestiges of them are in the recti muscles of the abdomen. These transverse tendinous bands in fishes, it should be remembered, correspond in number to the vertebræ, and the bands in the rectus of man are never more numerous than the vertebræ between the chest and pelvis, viz. five.

ACOUSTIC PHENOMENON.

To the Editor of the Medical Gazette.

Sir,

Anticipating that you will favour with an additional space in your valuable journal, some further practical remarks on the stethoscope and the ear, I take leave to trouble you with the following, as I shall endeavour to show that certain properties in the locality alluded to are analogous to those in the ear.

The physiology of this organ, if understood, must best define the laws of sound, but there are many reasons why a knowledge of its operations in external bodies may be more readily attained, and should pave the way to a more perfect analysis of the ear, as regards sound.—I am, sir,

Your obedient servant,

W. Shand.

Aberdeen, 29th January, 1839.

The following phenomenon must be considered singular as regards sound, and merits investigation, as there are many particulars connected with it which may throw some light upon the science of acoustics.

On board the commanding officer's ship, in Port Royal Harbour, Jamaica, a gun is fired daily, at sunrise and sunset, generally an eighteen-pounder.

At certain times the influence produced by the discharge of this gun, is, in the lower parts of Spanish Town, similar to the nearest and loudest tropical thunder, notwithstanding that this place is distant from the ship about ten miles, and seven miles inland. The glass in the windows rattles, as if it would fall to pieces, the earth trembles, and reflections between the walls of the houses produce a repetition of sounds like the successive explosion of many rockets, with peculiar distinctness.

What renders this more remarkable is, that the concussions and sounds produced by this cause are comparatively little felt in the city of Kingston, which stands on the verge of the same sheet of water on which the ship is, and not seven miles distant. It is not less remarkable, that the discharge of ordnance on the race course, on the opposite side, and within 500 yards of Spanish Town, does not occasion any such effects,

or such as would be remarked as unusual. The influence of the explosion is greatest in this peculiar locality during extreme hot weather, when rain has fallen in the middle of the day, and when the sun's influence had been powerful during the rest of the day.

There seems no doubt that sound is in this case conducted by the Rio Cober, which is about 300 yards from that part of the town where the greatest effects are produced, and by it the distance between the town and the ship must be at least eleven miles. The ground on both sides of the river, for several miles, is intersected by ditch and bank fences, to the height and depth of from ten to fourteen feet, which is inimical to the passage of sound.

The banks for some way, both above and below the town, are of considerable depth, and in many places perpendicular, are of light colour, and reflect the sun's rays upon the water. During general drought, when these effects are most impressive, the average depth of the water in the channel of the Cober is not above three feet in the stream, from the bridge at the lowest angle of the town to where it meets the waters of the harbour, and the flux of the tide is perhaps not more than six inches perpendicular. For some distance from the bay or estuary into which it falls, the river is of considerable width, but shallow, contracting gradually, but during the periodical rains the great body of water that is collected in the interior brings from the steep lands an immense quantity of earth, which is deposited in the bay. When these floods subside, the water is of little depth in the bay, and the thin stratum of water and consequent high temperature tend to keep up and convey sound with great effect to and through this extraordinary conductor.

On the reverse side from the town, and about a mile from the bay, is a distinct stream, communicating with the Cober, which at the distance of a quarter of a mile further branches into two different streams, the sources of which are in the base of a range of mountains, about two miles from the Cober, taking their course through an extensive marsh, which is then saturated with, but not covered by water, part of which is cultivated in aquatic grass, and the remaining part is covered by reeds and mangroves.

The decomposition of vegetable matter is of dark colour, calculated to absorb the sun's rays, and keep up a high temperature in the marsh, through which, and by the tributary streams, a great proportion of sound is diffused. It may be remarked that notwithstanding this, and that the main conductor, or stream of the Cober, is continued beyond the town, and the point where the sonorous effect is so immense, these circumstances do not appear to diminish its influence there.

I must here observe, that every conductor of sound must be susceptible of tremulous action; wherefore in this locality, and at a high and expansive temperature, water is a most potent conductor. The same rule applies here as in the atmosphere, that, to give effect to sound, considerable freedom of action is necessary. This is exemplified by the hole in the military drum, and by the increased sound of music when the door of a ball-room is thrown open; and yet it has been advanced before a committee of the honourable House of Commons, that much sound is lost by its being allowed to escape from a room.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

The London Flora. By ALEXANDER IRVINE, of Marischal College, Aberdeen. London, 1838. 12mo. pp. 340.

THIS is a useful work, and evidently written by a man whose heart is in his subject. A London Flora once meant a catalogue of the flowers within ten miles of the metropolis; more lately a range of thirty miles has been taken; and now in these iron days, when botanists wear steam legs, Mr. Irvine's limits are about seventy miles round London, being "the English Channel on the south, as far west as Southampton; from thence, an imaginary line, passing northwards, through Berkshire, Oxford, Buckingham, and Northamptonshire; and thence to the sea on the east."—(P. 6.)

This is certainly a wide range for a London Flora; but the author has also supplied a table of the genera to be found within two miles of Hampstead Heath; so that the timid citizen, who does not like to venture too far from the sound of Bow bell, may know what

plants he may probably meet with. In this table, the first column contains the orders and sub-orders in the London Flora; the second, the genera in the Hampstead Flora; the third, the genera in the London Flora; the fourth, the genera in the Flora Britannica; and the remaining four columns give the number of species in the Hampstead, London, and British Flora, and the total number known. Thus in the order Scrophularaceæ, the genera in the Hampstead Flora are Veronica, Limosella, Rhinanthus, Bartsia, Euphrasia, Pedicularis, Digitalis, Scrophularia, Antirrhinum, Linaria, and Melampyrum; there are no additional genera in the London, and only Sibthorpia in the British Flora; while of the genus Veronica there are ten species in the Hampstead Flora, twelve in the London, eighteen in the British, and one hundred and thirty-six known species. This table is very useful, and must have cost a world of labour. The following extracts will shew the minuteness with which the habitats are given:—

The Campanula patula grows "on a gravelly bank, not far from Bramshot Church, going towards Henden Heath. —Mr. William Pamplin." (P. 144). The Campanula latifolia, "by the stream behind the church, Albury Park, where it is not less than six feet high, with a spike of flowers upwards of two feet long. Roadside, between Ashbourne and Thorpe, Derbyshire. Brighton Road, near Merstham Park."—(*Ib.*)

The Campanula hederacea grows on a "Bog near High Beech, Epping Forest, or rather near Epping, on the right of the road that leads to Abridge, from the London road, and in the angle formed by their junction. Bog near Keston Cross, about two miles beyond Bromley, on the Tunbridge road. Bogs, on the moors, about Tunbridge Wells. —Mr. William Pamplin." (P. 145.)

We wish that the author had added the English names of the plants in this part of the work as he has done in the second.

The following extract from the Appendix is interesting, and will show how Mr. Irvine's zeal continues to the last, like an old friend conversing with one all the way down stairs, and unwilling to part even at the door!

"The following exotics are, apparently, naturalized:—

Valeriana *calcitrapa*.—Walls about Eltham, Kent.

Cannabis *sativa* (Hemp.)—Bromley Common, Kent; Cambridgeshire; Newmarket, &c.

Geranium *striatum*. — Streatham, Surrey, in a hedge near the Common, and also near the White Lion.

Linaria *purpurea*.—Beckenham,&c.

Momordica *elaterium* seems well established on a bank, by the seashore, a little distance from Shoreham, towards Brighton.

Malcomia *maritima* and Iberis *umbellata* are occasionally found growing spontaneously in places where the refuse of gardens has been cast.

Eranthis *hiemalis*.—In a wood, or copse, near Hemswell, Lincolnshire, where there was a garden many years ago.

Petasites *odorata*.—Reigate; about a mile on the right side of the Brighton road. Albury Park.

Trifolium *incarnatum* and T. *agrarium* are now plentiful in fields about Croydon, Guildford, &c.

Narcissi.—Several in a field behind the King's Head, Mill Hill.

Collomia *grandiflora*, and several Gillias, have been gathered in places where they were not sown, and are likely soon to be well established, as naturalized exotics.

Solanum *tuberosum* (Potato) and S. *lycopersicum*.—The former is common in fields; the latter has been gathered on manure heaps.

Malva *crispa*, &c.

A considerable portion of these exotic plants are as truly the spontaneous growth of the neighbourhood of London as Datura *stramonium*, Borago *officinalis*, and other reputed British species."—(P. 304.)

MEDICAL GAZETTE.

Saturday, February 9, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

Cicero.

NEW REGULATIONS OF THE COLLEGE OF PHYSICIANS.

We have seen with great pleasure that the College of Physicians has lately circulated very extensively a notice of the terms on which it admits candidates

to examination, and of the nature of the diploma it confers. The regulations are prefaced by the observation that "The College of Physicians having for some years found it necessary, from time to time, to make alterations in the terms on which it would admit candidates to examination, and license them to practise as physicians, has reason to believe that neither the character nor object of those alterations, nor even the extent of the powers with which it is invested, has been fully and properly understood.

"The College, therefore, considers it right, at this time, to make public a statement of the means which it possesses, within itself, of conferring the rank and privileges of physicians on all those who, having had the advantage of a liberal education, both general and professional, can prove their qualifications by producing proper testimonials, and submitting to adequate examinations."

The intention is an excellent one, and we trust that we shall be considered as contributing our mite to this useful purpose, if we pass in review some of the chief points in the new College Regulations.

There is one important circumstance in which they differ from those of 1836. It was then for the first time enacted that candidates might go up for examination without being in possession of a medical diploma. The College has now very properly gone a step further, and declared its intention of giving the degree of Doctor of Physic. Its diploma is in future to confer the "liberam facultatem et licentiam tam *docendi* quam exercendi scientiam et artem medicam;" and "it is prepared *to regard in the same light, and address by the same appellation*, all who have obtained its diploma, whether they have graduated *elsewhere* or not."

It is clear to us that this change is expedient as well as just, but lest it should startle any one unversed in the history of those magic letters, M. D., we will take the liberty of making a few observations on it.

In days of yore,—say three centuries ago,—the degree of Doctor of Physic appears to have been a considerable distinction, and to have pointed out its fortunate possessor as one skilled not only in medicine, but in the liberal arts and sciences. The number of years which were required to elapse before the highest honours in medicine could be conferred, were of themselves a tolerable guarantee that they would not be given to an ignoramus; for it is difficult to believe that this precaution could be nullified in those simple ages, and that a man could pass twelve or fifteen years in the nominal study of his profession, and be sent forth quite ignorant of it, Anno Domini 1540. Without supposing, therefore, that every Doctor *Medicinæ* came up to the standard of a Linacre or a Caius, we may easily believe that our ancestors contemplated "a grave and learned doctoure in physicke" with very different eyes from those with which we look upon the batches of unlettered lads hourly thrust forth from the degree-manufactories of every part of Europe.

The truth is, that even if we were to adopt the flattering theory that the young men who are now-a-days introduced *per saltem* into a doctorship at one-and-twenty, were really qualified *docere medicinam*, their prodigious number would nevertheless lower their marketable value; just as after the discovery of the American mines an ounce of gold or silver would not buy the same quantity of commodities as before. But the case which is unfortunately more in point is that of a depreciation of the coinage; and as the French *livre*, or Italian *lira*, was originally a pound

of silver, but has sunk to less than a seventieth of that quantity; so the once valuable name of Doctor has fallen, until in this country it popularly signifies any one willing to administer drugs.

Indeed, when we see the multitudinous array of doctors annually created by certain seminaries, we are apt to think that, like the one-faculty people, they are trying to set the whole profession on a level, or to place every body at the top, just as the Irishman in the story wished to have an apple-pie made all of quinces.

These things being so, the College of Physicians had the following threefold choice. First, to go on as before, requiring a diploma, but accepting it though granted on the most lenient terms; austerely demanding the bit of parchment, but satisfied with one sold on the most accommodating terms to the absent and ignorant suitor. This was as much as if a public body were to require a candidate to be of the rank of esquire, but accepted as a proof of the dignity the fact of his being so designated in the address on his tailor's bill.

The second resource was to discriminate between universities, and reject the mere vendors of degrees. This method, though plausible, would scarcely have been practicable; and to many the total exclusion even of Erlangen and Heidelberg would have seemed unjust, as these seminaries, however venal in some cases, may in others bestow their honours on real merit.

The remaining course is that which the College has adopted, and is eminently the best. To exercise the power of licensing its candidates to teach as well as practise physic, is no more than the College may claim as the necessary result of its position; and while it is socially right, it is perfectly justified legally, standing on precisely the same grounds as the Benchers do in law. This, we believe, is the only change made in the Regulations since 1835, but a most important one it is.

The examinations were formerly carried on in Latin alone; they are now conducted partly in English and partly in Latin. This, we think, is an improvement; for in a purely Latin examination, the candidate who cannot answer a question may often contrive to make it appear that the defect is only in his expression,—just as criminals sometimes get off by pleading guilty to a minor offence. It is obvious, too, that examinations in a language foreign to the examiner, have a tendency to become less minute and searching—a tendency which is sorely increased now that this language has ceased to be the dialect of scientific discussion. On the other hand, the College has done well to retain a part of the Latin examination; for while some considerable proficiency in this language is made one of the chief tests of a liberal education in this country, English physicians will act prudently in endeavouring at least to rival the other learned professions in this acquirement.

The candidate now, as always, must have completed his twenty-sixth year; and by the new Regulations, must shew that he has spent at least five years in the study of medicine.

The course of study must have consisted of anatomy and physiology; the theory and practice of physic; forensic medicine; chemistry; materia medica and botany; and the principles of midwifery and surgery: together with three years' attendance on the physicians' practice of a general hospital in Great Britain or Ireland. If the candidate has been educated abroad, he must have attended some general hospital in this country for at least twelve months.

We have never seen any course of study more usefully comprehensive or

better devised than this; though we could have wished to see some hint as to the propriety of attending Dispensary as well as Hospital practice. Those readers who recollect the admirable remarks of Rust, on Clinical Instruction, which we gave on a former occasion (Med. Gaz. vol. xx. pp. 160, et seq.), will see the full force of this recommendation. That great practitioner sets forth, with the impartiality of a consummate judge, the advantages respecting attending on a general hospital, a *clinique* (or ward containing selected cases), and a dispensary. Each has its peculiar merits, so that the student not limited in time should imbibe instruction from each. However, we rather throw this out as a hint to the young physician than mention it as a serious omission in the Regulations; especially as the College merely sketches the outlines of the candidate's education, and leaves him to insert the details.

Practitioners who have attained the age of forty may present themselves for examination, if their testimonials are satisfactory, without having gone through the education above described. We have no doubt but that these Regulations will satisfy all reasonable persons, or that if any discontented are left, they will be found either among the professors of parchment-mongering universities or among incurable carpers, who would grumble were it only that there is nothing left to grumble at:—

"Vixque tenet lachrymas, quod nil lachrymabile cernit!"

ROYAL INSTITUTION.

Friday, 25th January, 1839.

Mr. Woodward's Demonstration of the laws of Polarised Light.—Anticipation of M. Daguerre's Discovery.

Mr. Woodward, whose researches into the nature of light are well known and highly appreciated, gratified a numerous assembly with a display of several beautiful experiments, illustrating the laws which regulate the phenomena emanating from polarised light.

The lecturer has adopted the hypothesis of Huyghens, who supposed light to be produced in the same manner with sound, by the annunciation of a vibrating motion from the luminous body to a highly elastic ether, which he imagined as filling all space, and interposing itself between the ultimate particles of all bodies. He illustrated, by models and diagrams, the motion of these etherial undulations, which he supposes to tremble laterally. These waves proceed through the elastic medium, and are transmitted through or reflected from bodies, according as they excite vibrations or not in the interstitial ether of those bodies. In the phenomenon of double refraction, Huyghens supposed such a constitution of etherial medium within the crystals as should enable it to convey an impulse faster in one direction than in another.

Some remarkable facts accompanying the double refraction of Iceland spar led Newton to conceive that a ray of light, after its conveyance from such a crystal, acquires the property of *sides*, which it carries with it through its entire subsequent course, and occasions all the curious and complicated phenomena now associated under the name of polarised light.

Mr. Woodward supposes the vibration of ether to take place in two planes at right angles to each other; and the different effects produced by the agency of different bodies upon a beam of light, depend upon their aptitude at receiving vibrations from these undulations.

The lecturer employed a bright white light, produced by directing a jet of flame of the mixed gases upon lime. This light was concentrated by a powerful lens, and polarised by *tourmalin* plates, of about the thirtieth part of an inch in thickness. These plates are particularly fine, and cost Mr. Woodward 20*l.* each. Unless they are perfectly good, they do not answer the purpose. With this elegant apparatus he repeated several of the experiments of Brewster, Herschel, and Arago.

A prismatic crystal of transparent brown tourmalin being cut parallel to the axis of the prism, of the thickness already stated, with the surface polished, and being placed across the beam of light, perpendicular to it, and then revolved on the axis of the beam, no change is effected on the light transmitted through it. But if this plate be secured in a fixed position, and another plate be placed beyond it, parallel to the first, and turned round in its plane, a remarkable change is observed in the nature of the light; for the image on

the tablet vanishes and reappears alternately at every quarter of the circle revolved, varying through all degrees of brightness down to total or nearly total evanescence, and then increasing again as it had before decreased. These appearances depend upon the relative position of the plate. When the longitudinal sections are parallel, the brightness of the image is at its maximum, and when they cross at right angles it vanishes. The light, in passing through the first or *polarising* plate of tourmalin, has acquired a property different from the direct light. The direct ray would penetrate the second or *analysing* plate in all directions; whereas the refracted ray penetrates it in certain positions only, and in others it is wholly obstructed. Thus the second plate of tourmalin is a test of the polarisation of the ray. If we look at the two images produced by the Iceland spar through a plate of tourmalin, it will be found as the tourmalin revolves the images vary in their brightness; one increases in intensity till it arrives at a maximum, whilst the other diminishes till it vanishes, and so on alternately at each quarter of a circle, shewing that both images are polarised in opposite directions, for in one position the tourmalin transmits the ordinary ray and reflects the extraordinary, and after revolving 90°, the extraordinary ray is transmitted and the ordinary ray is reflected.

If, at the period when the image has evanesced, a film of mica or sulphate of lime is interposed between the two plates perpendicular to the polarised ray, it will be found, on turning this plate upon its axis, that the image disappears and reappears at each quarter of a circle—that is, in certain positions it *depolarises* the ray. A plate of unannealed glass will have the same effect. If the polarised image is now viewed through a plate of tourmalin with the plate of mica interposed, a succession of beautiful colours appear in certain positions of the mica, depending upon the thickness of the plate. These colours succeed each other in definite order, and are *complementary* to each other.

Mr. Woodward, by means of his beautiful tourmalin plates, demonstrated the structure of various crystallized bodies, by shewing their affections under polarised light; and the phenomena of colour produced by the action of these crystallized bodies were truly splendid. The lecturer first repeated the experiment of Huyghens upon the Iceland spar. The polarised ray being transmitted through mica, the analyzing plate was revolved from a position where no colour is seen. The colour *red* was at a maximum at the angles of revolution 45°, 135°, 225°, 315°; while it disappears altogether at the angles 0°, 90°, 180°, 270°. If the plate of mica be fixed at the angle where it produces the brightest *red*, and the analyzing plate be revolved (the point where the plate begins to move being supposed to be 0), the brightness of the *red* will gradually diminish till the plate has turned round 45°, when it disappears. Beyond 45° a faint *green* appears, and gradually increases in intensity till it reaches the maximum brightness at 90°. Beyond 90° the green becomes paler, till it vanishes at 135°, where the red again comes in view, and reaches its maximum brightness at 180°. The same changes are repeated between 180° and 360°.

Mr. Woodward subjected to experiment various crystallized bodies, as rock crystal, Iceland spar, selenite, Arragonite, nitrate of potass, sugar, and various fluids; and the resulting phenomena were truly magnificent, and perfectly justified the assertions of Herschel, "that the characters afforded by the use of polarised light as an instrument of experimental inquiry, are so marked and intimate, that they may be said to furnish us with a kind of intellectual sense, by which we are enabled to scrutinize the internal arrangement of those wonderful structures which nature builds up by her refined and invisible architecture, with a delicacy eluding our conception, yet with a symmetry and beauty which we are never weary of admiring." In France, polarised light is now very generally employed as a test of the purity of various fluids.

Mr. Woodward introduced to the notice of the meeting a microscope invented by Goddard, and constructed by Ross, in which plates of glass placed at an angle of 57° were employed as the means of polarising light, instead of the first tourmalin plate; and plates of mica were used instead of the second analysing tourmalin. Instead of a lens, the reflector invented by Mr. Goadby was employed, and the jet of ignited gas was directed on an upright cylinder of lime, which was made to move on its longitudinal axis by means of mechanism concealed from view. This apparatus has the great advantage of being cheap, and in Mr. Woodward's hands it proved certainly as perfect a means of exhibiting the properties of polarised light, as the more expensive tourmalin apparatus of Mr. Woodward.

After Mr. Woodward concluded his demonstrations, Mr. Faraday invited the attention of the members to some *photogenic* drawings exhibited in the library, and which had been made some years since by Mr. Talbot, who has completely anticipated M. Daguerre in arresting the fugitive pictures of the camera obscura.

Sir Humphry Davy, in an early volume

of the Quarterly Journal of the Royal Institution, has pointed out the practicability of producing a chemical substance upon which the rays of light should act, so as to render the light and shade permanent, and thus perpetuate the drawing made by the pencil of nature. IDIOS.

[In the notice of Mr. Palmer's new electrical machine, in our last report, we omited to state that it was provided with two cushions; by which arrangement the power is greatly increased, and the spark acquires that peculiar pungency and intensity which is observed in the spark of the new plate machine.—ED. GAZ.]

PHYSICAL SOCIETY, GUY'S HOSPITAL.

Jan. 26, 1839.

BRANSBY B. COOPER, ESQ. F.R.S. IN THE CHAIR.

DR. HUGHES read an essay—

On the Existence of Fibrous Concretions in the Heart prior to Death.

Dr. Babington, in reply to objections made by Dr. Hughes against an article written by him for the Cyclopædia of Anatomy and Physiology, on the morbid condition of the blood, said, that before writing that article he had carefully examined the literature of the profession in reference to this point, and had endeavoured to give the result historically, without prejudice either way. He had no evidence to prove that clots could exist in the cavities of the heart for any length of time before death; indeed, it seemed impossible to imagine that life could continue with such formations. There was nothing in the nature of coagula found in the heart which might not be accounted for on the explanation that they are the result of a postem mortem, or moribund state. It was difficult to obtain direct proof in man; but he had seen several horses killed, and had opened their hearts immediately, but had never met with one of these concretions. He had been informed by a knacker, who had been engaged in that business twenty-eight years, and had slaughtered many thousand horses, that he had never found a fibrinous clot in the heart; but when the animals die a natural death, such were constantly met with. With regard to the organizability of these clots, Dr. Babington said, if there be inflammation or lesion of the lining membrane, doubtless effusion may take place at the spot, and acquire organization from the vasa vasorum of the original structure; but he deemed it contrary to the laws of the living body that clots formed from the mass of the circulating fluid, as Dr. Hughes had described, should ever become vascular and organized.

Dr. Bossy had great deference for the authority of Dr. Babington, but considered it nevertheless proved, both that clots were capable of injection, and that they occasionally existed in the heart before death. The latter was directly inferred from the circumstance that pus had been found by some writers within the substance of the globular concretions in the cavities of the heart.

In answer to a question put by Mr. Greenwood,

Dr. Hughes said, clots were undoubtedly found in most hearts as the result of post-mortem coagulation; but this was not the subject of his paper: his object was to shew that fibrin was occasionally deposited from the circulating blood, in the cavities of the heart, before death; and that these were susceptible of organization under certain circumstances, as evidenced by the fact of injection of air, size, and mercury, into them, and by osseous deposits having been described in them by Burns and others. With regard to what Dr. Babington had said, he quite agreed that life could not endure in a heart full of coagula; but the clots of which he spoke did not occupy the whole cavity: there was usually some aneurismal dilatation or sinus in which the mass lay, without interrupting the course of the circulation. It was indeed his belief that they were probably at all times the result of a moribund state, but a moribund state might be one of long continuance, sometimes extending to weeks. That sudden death occasionally resulted from these concretions he also believed: a case was mentioned by Mr. Key, where a lad was found dead on the water-closet. On examination the only pathological appearance discovered was, a mass of fibrine blocking up the auriculo-ventricular passage. He quite agreed with Dr. Babington, that whenever they acquired vascularity it must be derived from the vasa vasorum; he did not believe that coagula could originate their own vessels, (though Andral appeared to think so,) but this was no real objection to his views. With regard to Dr. Bossy's statement of *pus* being found in clots within the heart, he did not regard this as *pus*, but merely a softening or breaking down of the interior, and this occurred not in adherent coagula, but in globular masses that were loose within the cavities: he did not consider this any proof of organization.

Dr. Addison doubted the possibility of clots of blood becoming organized under any circumstances. Examine the layers

of fibrin in an aneurismal sac: these are in close contact with the walls, yet they neither acquire adhesions to it, nor soften down, nor become vascular and organized. So also in a case of pulmonary apoplexy that was lately inspected. Various degrees of change were observable; some clots were red—some grey—others more advanced and quite firm, but none of them were vascular or organized, albeit some of the last kind appeared softened in the centre. In order that adhesion should take place a certain amount of inflammation was essential. Dr. Addison was not satisfied with the vascularity of the preparation which was being handed round the society: he had often been struck with the appearance of the buffy coat of inflamed blood; had he not been aware that it was the buffy coat, he should have deemed it often some organized structure—and similar difficulties no doubt existed in examining coagula found in the heart. He admitted the adhesion and organization of the vegetations noticed about the valves, but these were the result of inflammation or lesion of the membrane, with some added (perhaps) fibrine from the circulating blood—but this was a very different state of things to that described in Dr. Hughes' paper.

Mr. Hilton did not agree with Dr. Addison, that clots of fibrine were incapable of acquiring organization under any circumstances—for how could he explain what becomes of the clot in an artery subjected to ligature? It was well known that this coagulum undergoes gradual changes until it is finally absorbed. In an incised wound, the fibrinous part of the blood remains between the lips of the cut, serves as the medium of union, becomes organized, and ultimately assimilates itself to the adjacent structures. In a purulent ulcer, under the pus, the fibrinous part of the blood is deposited as a layer over the granulations of the ulcer, until it acquires vascularity and organization, and becomes finally a cicatrix. Although he believed, therefore, that coagula from blood were occasionally susceptible of vascular organization, he must at the same time avow that many preparations which professed to demonstrate that point, were not satisfactory to his mind. There was, for instance, one in the museum of the College of Surgeons, presented by Mr. Lawrence, as an illustration of the fact; but, upon looking minutely into it, he confessed that to him it appeared to present the character of injection diffused irregularly into the interstices of the fibrin, in the direction of the injecting force, and not proceeding from a trunk which ramifies into a subdivision of smaller vessels—an arrangement which Mr. Hilton considers essential to the proof of true vascularity.

Dr. Bird thought Mr. Hilton was in error if he meant to say that pus or serum contained the fibrin which was deposited on an ulcer. Neither pus nor serum contain any fibrin. Injection was no proof of organization; for, if two pieces of fibrin be placed together, and a column of mercury directed between them, the metal will run into the interstices on both sides, and present the semblance of true vascularity.

The President desired to understand distinctly from Dr. Hughes whether he believed that concretions of fibrin from the circulating blood ever took place, adhered, and acquired vascularity, except at a part where the inner coat of the heart or vessel was ruptured or inflamed. He himself did not think it possible.

Dr. Hughes did think they could occur even though the lining membrane were entire, and not inflamed. John Hunter had injected a clot of fibrin taken from the peritoneum: it was preserved in the College of Surgeons' museum. And with regard to the preparation now going round, upon which some doubt had been to-night expressed, he could add, that Mr. Key was in the habit of shewing it in his surgical lectures as an illustration of the organizability of fibrin. Many good authorities, too, might be quoted in support of the opinions he had advocated, but he was persuaded that if any gentleman would candidly examine the question, look carefully at the post-mortem appearances he had described in his paper, and dispassionately draw his own conclusions from what he observes, he will not fail to agree with him in the statement, viz., that coagula did occasionally form within the cavities of the heart before death, in the same manner as in the arteries and veins —sometimes the product of inflammation or lesion of the lining coat, but not infrequently altogether independent of any such lesion or inflammation, being derived from the circulating blood, under circumstances which had been more fully explained in his paper; and, further, that these concretions were now and then capable of assuming vascularity and organization.

Mr. Chapman, observing that the time of meeting was expended, proposed a vote of thanks to the author of the paper which had furnished so interesting a discussion. This was seconded by Dr. Addison, and unanimously carried.

At the next meeting, February 9th, Mr. Greenwood will relate the particulars of a case of sudden death presenting peculiar symptoms.

WESTMINSTER MEDICAL SOCIETY.

February 2, 1839.

Dr. Chowne, President.

Nature and Treatment of Croup—Difference between Croup and Laryngismus Stridulus—Is the Plastic Inflammation of Croup of a specific character?

A gentleman, whose name we understood to be Baller, supplied the Society with a minute and succinct history of a case of croup, recently attended by himself, and in which the symptoms were of a doubtful character. The patient was twelve years of age, and suffered several days. The brassy sound of the voice was absent; the respiration was regular, and unattended with any abnormal sound. The stethoscope gave no indications of disease; the pulse, however, was hard and frequent, and the skin pungently hot. An antiphlogistic plan was adopted, and leeches, aperients, colchicum, antimonials, mercurials, were amongst the means employed. The mouth became affected with ptyalism, yet the patient died. A post-mortem examination was made, and a false membrane was discovered lining the larynx, trachea, and the bronchial ramifications. A preparation of the parts was exhibited to the Society, and a very distinct membrane existed, extending from the edge of the epiglottis, which presented a red hue downwards throughout the air-passages. Between this preternatural membrane and the true mucous coat, a layer of grey mucus existed, of the thickness of a line. In conclusion, Mr. Baller inquired of the members what could be the cause of the absence of the auscultatic symptoms? How could the supererogatory membrane have been generated? What was the reason that the ptyalism did not subdue the disease? Did the inflammatory action in croup differ in kind from other inflammations, or did it differ only in degree?

Dr. Addison inquired particularly if no uncommon sound attended the respiratory efforts of the patient, if any convulsions existed, and if the voice was affected?

Mr. Baller stated that the patient breathed very feebly, she spoke a little above a whisper, but no convulsion was observed at any time.

Dr. Addison considered the case a very uncommon one. It was extraordinary that the cold air, when inhaled and placed in contact with the irritable and inflamed lining of the larynx, did not excite convulsions. That the auscultatory symptoms were absent could only be ascribed to the great exhaustion of the patient.

Dr. C. J. B. Williams saw from an inspection of the preparation, that the false membrane extended from the glottis downwards to the minute ramifications of the bronchiæ. In such cases he had observed that the crowing respiration and vocalization were generally absent. He did not, therefore, think the case under discussion in that respect extraordinary. The force of the expiration was so much diminished that the breath was not vocalized. The peculiar respiratory hissing was produced by an inspiratory, not by an expiratory action, for the glottis offered greater resistance to the inhalation than to the exhalation of the air. The apparatus of muscles supplied to the glottis was so delicate, and the power of these muscles so nicely balanced, that spasmodic action was more easily excited in them than in any other part of the body. He was of opinion that the inflammation of croup did not differ from common inflammation. It was merely more intense. It was to be recollected that the disease mostly occurred at an age antecedent to puberty, at a period when the trachea and larynx were only a third of their full size, and when consequently the area could be so much more rapidly filled up by adventitious deposit. Croup might occur at any age, but its occurrence before puberty was rendered more probable, not merely through the narrower size of the respiratory tube, but more decidedly in consequence of the character of the mucous lining at that early age. This tunic in youth and childhood is less decidedly follicular than at adult age. It is very thin, and resembles more nearly in structure the serous membranes. It is well known that in phlegmasiæ of the serous membrane the seat of the inflammation is the subjacent cellular tissue. The serous membrane is transparent, and in inflammation shews the injected capillaries beneath it. A high degree of inflammation in this membrane produces a copious deposition of fibrin or albumen, which pervades the superincumbent serous surface, (merely a condensation of the cellular tissue), and is arranged in layers over its surface. In like manner, in the mucous membrane of young subjects, the intense inflammation of the submucous tissue would spread to the adjoining membrane, and set up the plastic process productive of the adventitious membrane. The degree of inflammation most commonly occurring in the mucous tunics is the suppurative, but he (Dr. W.) had seen cases in which the character of the inflammation had changed in the progress of the disease; in which the plastic inflammation had become suppurative, and the suppurative had become plastic.

With regard to the treatment of this formidable malady, he thought that medical men ought to be cautious in not relaxing their antiphlogistic efforts when the patient became under the power of mercury; he had known some cases lost through the supineness of the practitioner, who neglected further remedies. It was generally needful to aid the effect of the mercury by leeches, purgatives, and other antiphlogistic means. His experience led him to prefer antimonial before mercurial preparations.

Dr. Reid concurred in opinion with Dr. Williams, that the croup inflammation differed only in degree from other inflammations. He had had a case recently under his care, in which the patient had been treated for phthisis and bronchitis. The patient, though five or six-and-twenty years old, had genuine croup. The adventitious membrane was confined to the lower part of the trachea and the bronchial ramifications: she was saved by active depletion, and the false membrane was expectorated. He (Dr. R.) would like to ask Dr. Williams how he diagnosticated true croup from *laryngismus stridulus;* a disease, he believed, occurring exclusively at a very early age?

Dr. J. B. Williams said that the disease first called laryngismus stridulus by Dr. Mason Good, and lately much discussed, in consequence of the excellent monograph of Dr. Hugh Ley, was, in his opinion, of a spasmodic character. He did not agree with Dr. Ley in ascribing it to pressure of the recurrent nerve by enlarged glands. The effect of such pressure would be paralysis of the dilatory muscles of the larynx, and the *vox stridula* could not arise from such a pathological condition. He thought the disease existed in the excito-motory function of the part; it was produced by irritation in some or other portion of the alimentary canal which is carried through the incident nerves to the spinal marrow, and thence reflected to the laryngeal muscles. Dr. J. Reid had satisfactorily shewn that the superior laryngeal was a nerve of sensation, and excited motion, whilst the recurrent was chiefly or entirely a voluntary nerve. It was very possible that irritation in the course of the recurrent nerve would produce the spasmodic affection of laryngismus stridulus. This irritation might be produced by enlarged glands, or any other substance interrupting the function of the nerve in its course. The convulsions occurring in this disease were produced by the difficulty of inspiring air, and not from the effect of the contact of cold air upon the surface of the mucous lining.

Mr. Streeter agreed with Dr. Williams, that the alterations of structure evident in croup were the consequence of an intense degree of inflammation. Sir A. Cooper used to relate in his lectures an instance wherein a high degree of inflammation in the mucous membrane produced adhesion. A kangaroo, whose straw was set on fire, was not obviously much burnt; in a few days, however, the animal died, and a post-mortem inspection showed that the urethra had become obliterated, through the intense inflammation excited. A low degree of inflammation in mucous surfaces produced purulent discharge; but a very high degree produced adhesion, and the secretion of fibrin. The converse was the case in inflammation of serous membranes. A low degree of phlegmasia excited adhesion, but a high degree caused suppuration.

Mr. Winslow was of opinion that inflammation in the submucous tissue produced deposition in the cells of that tissue, and not a transudation through the substance of the mucous membrane.

Mr. Costello related a case in two points analogous to the case detailed by Mr. Baller:—A coachman, 30 years old, caught cold; he was affected with dyspnœa, pain in the throat, and symptomatic fever. The acoustic symptoms were wanting. The patient was mercurialized, but nevertheless died, and a false membrane was discovered after death lining the entire surface of the air-passages.

Mr. Roderick had frequently observed in inflamed bladders arising from strictures, that layers of false membrane were deposited in the internal surfaces of that viscus.

Mr. Costello felt sure that such cases must be very rare, for during twenty years that he had paid particular—nay, almost exclusive—attention to diseases of the bladder, he had not met more than two or three cases.

Mr. Roderick had seen many such cases at St. Thomas's Hospital.

Dr. Addison felt surprised that Dr. Williams and Dr. Reid should consider the adventitious membrane characterising croup as the effect of an intense degree of common inflammation. Dr. Williams had noticed the existence of tumefaction of the integuments of the throat as a proof of the intensity of the inflammation. He (Dr. A.) had found this swelling to be a common occurrence. It was present in cynanche parotidæa, and in quinsey; he was disposed to consider croup either as a peculiar affection, or as depending upon a peculiar character of constitution. The supposition of Dr. Williams, that intensity of inflammation produced the false membrane, was quite gratuitous; for how many intense inflammations were constantly oc-

curring without any such membranous production. He (Dr. A.) could not conceive how inflammation of the submucous tissue could generate, by a kind of endosmosis, an organised membrane upon the surface of the super-imposed mucous tunic; he could not concur in the idea that the serous membrane was not the seat of the inflammation which was apparently inherent in it; he had taken a portion of an inflamed pleura (on several occasions), and carefully scraped the sub-adjacent cellular tissue, but he could not remove the injected vessels; they still remained embossed on the superfices of the serous membrane. This was a coarse experiment, but he thought it had an important bearing on the question at issue. The deposition of pseudo-membrane was not peculiar to the trachea; such depositions occurred in the bladder, in the alimentary canal, and particularly in the pharynx and fauces. The disease known as *cynanche membranacea* was not uncommon in this country. The membranaceous deposit in this malady varied in extent according to the intensity of the inflammation. The palatine fringes, the pharynx, the nasal passages, were all lined with membrane in various cases. A foreign writer had recently said a great deal about this disease, which he had designated "*diphtherite*," and fancied he had made great discoveries. He (Dr. A.), however, had more than fifteen years ago fully explained the true nature of the disease, and clearly shewn its analogy to the membrane of croup. He (Dr. A.) had also seen very many cases of the disease called laryngismus stridulus, which was well known to our medical writers, though recently rendered rather notorious under its new title. He thought the cause assigned to it by Dr. Ley (the pressure of enlarged glands) was purely imaginary. The chief cause was irritation of the brain. In highly sensitive subjects very slight stimuli would give rise to the *vox stridula*, as well as the hissing or croupy respiration. Even fear would produce it. He had known an instance of its being produced by aneurism of the arch of the aorta, where irritation of the recurrent laryngeal was occasioned. It was, of course, highly important that the *laryngismus stridulus* should be distinguished from the true croup, as the plan of treatment in the two maladies would be essentially different; the latter requiring a most vigorous antiphlogistic treatment, whilst mild alteratives, antispasmodics, and even tonics, might be proper in the former.

IDIOS.

[Dr. Johnson has requested us to correct a mistake in our report of last week: he did not say that "he had no doubt that the nitrate of silver might after a time be used in as large doses as carbonate of iron;" but, on the contrary, limited the maximum dose to ten grains in the 24 hours. We regret that the mistake should have occurred.—ED. GAZ.]

ANATOMY OF HERNIA.

MR. CRAMPTON AND SIR A. COOPER.

To the Editor of the Medical Gazette.

SIR,

IF the wealth of an individual could afford an excuse for withholding from him any portion of his property, I might stand excused for delaying to restore to Sir Astley Cooper a portion of his fame as a discoverer, of which, by a misprint in the report of a lecture lately delivered by me, in the Royal College of Surgeons in Dublin, I have most unintentionally deprived him. In the report which appeared in many of the newspapers, and in the Dublin Medical Journal for the present month, I am represented as having said, "If we are not indebted to Sir Astley Cooper for the discovery of the true anatomy of the parts concerned in hernia," (as if we could be indebted to him for the *untrue* anatomy,) "he is entitled to all the honour of the discovery; for he was the first to apply knowledge which was of no account until he used it in explaining the nature and treatment of strangulated hernia."

The passage should be read thus:—"I will not say that we are indebted to Sir Astley Cooper for the discovery of the *whole* of the true anatomy of the parts concerned in hernia, but I can say, with perfect truth, that he is entitled to the whole honour of the discovery; for knowledge," &c.

But this is insufficient justice. The fact is, that I had intended to particularize the additions which had been made by Sir Astley Cooper, and others, to the pathology of hernia; a duty which was the more necessary in the instance of Sir Astley, as he has not, in his great work, put forward his claims as a discoverer, but merely permitted them to be inferred. I should, for example, have mentioned his discovery of the "true anatomy" of the upper abdominal ring and of the inguinal canal; the fascia transversalis, and the double sac of femoral hernia. Upon these points, as well as upon the anatomy of the thymus gland, I had full notes prepared; but finding that I had much exceeded the limits within which I had intended to confine my lecture, I was obliged not only to compress what I had

to say, towards the conclusion of the discourse, within the smallest possible compass, but even to omit altogether much that should have found a place in a lecture purporting to give "An Outline of the History and Progress of Medicine, *in connexion with Anatomical Discovery.*" This limited view of the subject furnishes the only excuse I have to offer for the many omissions in the discourse which must strike the most careless reader: among these I may note vaccination, the treatment of inflammation by mercury, and the discovery of the medical properties of iodine.

With many apologies for this unreasonable trespass on the columns of your valuable journal, I have the honour to be,

Sir,

Your very faithful humble servant,

PHILIP CRAMPTON.

Merrion Square, Dublin,
Jan. 29, 1839.

PROPOSED

TEST OF THE VALUE OF STETHOSCOPIC AUSCULTATION.

To the Editor of the Medical Gazette.

SIR,

THAT an acoustic exploration of the chest, whether by the unassisted ear or through the medium of the stethoscope, imparts to us a clear knowledge of certain morbid conditions of the lungs, is a fact which no one will dispute. At an advanced state of phthisis, the existence of cavities, formed by the evacuation of softened tuberculous matter, is at once evident to those who are but little experienced in the art of auscultation. It has in many cases been well ascertained, that the necroscopic inspection has confirmed the diagnosis of the auscultator, as to the nature as well as the extent of the disorganization. But it is also certain that even those who have been regarded as distinguished auscultators, have sometimes stated very erroneous opinions, as the necroscopic examination has proved. When I hear of any man, who has given no veracious indications of his skill in this method of exploration, confidently averring that such and such sounds are heard, and that there exist such and such diseased conditions of the lungs, at a period of the disease when there is either a well-founded prospect of recovery, or the fatal event is believed to be at a considerable distance, and there is consequently no chance of proving soon, by ocular demonstration, the correctness of the opinion, I am naturally led to meditate, what would be the opinion of some *distinguished* auscultators in the same case, at the same instant of time; and therefore I have long and very much wished that the art of auscultation could be put to the following test: That a few cases of supposed disease of the lungs (I do not speak of any particular disease, but of diseased lungs in general,) admitted, without any auscultatory examination, to be doubtful, should be presented at the same time to several "master builders,"—men well known to fame as having intently studied, and extensively practised both percussion and the stethoscopic, or, as I would rather call it, the *Stethacoustic* exploration. I may name Sir James Clark, Dr. Latham, Dr. Forbes, Dr. Williams, Dr. Davies, Dr. Stokes, Dr. Spittal; any three or more of these that could conveniently meet together. Let the cases be examined by each of such eminent individuals without any communication with one another, and for this purpose let the auscultators be congregated in one room. Let each in his turn, in another room, examine the patient, and put in writing what he hears, and also the opinion of the organic lesion which the examination has led him to form, it being understood that he avails himself, at the same time, of all the information which a knowledge of the general symptoms, and the previous history of the case, are calculated to afford. After all have written their reports of the sounds, and their opinions of the organic morbid changes, let them exhibit these to several individuals who have been present, but have taken no part whatever in the examination. Let this number consist of two on each side, namely, of the zealous advocates, and of the resolute opponents of auscultation; and of the latter, if he will consent, by all means let Dr. Clutterbuck be one. Then, on a comparison of all the reports and opinions, it will be perceived wherein they agree and wherein they differ. If they differ only in some very immaterial points, and agree in all essential particulars, both as to the sounds and the nature and extent of the disorganization, it would be a satisfactory proof of the value and importance of this method of diagnosis. But if these distinguished auscultators shall disagree in any points of essential importance, either as such may relate to their hearing of the sounds, or other diagnostic declarations of the organic changes, then it may be reasonably asked, what is auscultation worth in those cases in which its unerring decision is a peculiar desideratum? I allude to those wherein it is doubtful whether disease exists in the lungs or not; and if it does exist, of what nature, and to what extent. And what must be thought of the employment of the stethoscope in the hands of

ignorant and mendacious men, who use it as an instrument by which they may ensnare patients; and who, by the oracular ejaculation of, "Ah, ah!" at well regulated intervals during the pretended examination, and by an imposing meretricious manner in announcing their opinion, impress the patients, and the admiring friends of the patients, with a high estimation of their wonderful powers? Of such a one admirers say, "O! he is *so* clever at the stethoscope!!" This species of conduct is utterly contemptible, and such as no man of probity, skill, and talent combined, would deem it necessary to practise. For nothing whatever, in the shape of a shrug, a shake of the head, or an ejaculation, should, in the course, either of auscultation or any other mode of examination, be interjected by the practitioner, which may lead the patients or their attendants to conjecture what may be passing, if an opinion really be passing, in his mind, in regard to the state of disease. Far be it from me to deny the value of the stethoscope in those cases wherein it has been proved to afford most important aid in diagnosis; and I know too well that its indications are so clear in certain cases of an advanced disease, that they cannot be mistaken, even by the inexperienced. I merely protest against its presumed infallibility by some of its zealous, and therefore injudicious advocates, but most particularly against its *ad captandum*,—its immoral use, accompanied with ejaculations in the course of its application, in the hands of the ignorant and mendacious.—I am, sir,

Yours respectfully,

VERAX.

19th January, 1839.

P. S.—In Dr. Latham's admirable published lectures, p. 166, he says, "We may distinguish them (the sounds) correctly, and call them by right names, and make a musical scale of them, if we please, and still know nothing of the morbid conditions which they indicate, and out of which they arise. These cannot be discovered by a discriminating ear only; they must first be known what they are in themselves. By means of auscultation various diseases of the heart and lungs are capable of being detected with wonderful certainty; but the power of so detecting them belongs to those only who have studied these diseases in all the processes of their formation and progress, and results."

I especially recommend the above to the notice of, and throw it out as a crust for, the ejaculating auscultator, in whatever part of the island he may have taken root.

STATE OF MEDICINE IN ALGIERS.

DR. A. VON SCHÖNBERG, chief physician to the King of Denmark, took part in the expedition against Algiers, and communicated the result of his observations to the Royal Medical Society at Copenhagen. He also published them in a separate form, and the following abridgment of his work is from a review of his work in the *Zeitschrift für die gesammte Medicine* for January 1838:—

The climate of Algiers is upon the whole healthy, though the air is polluted by putrescent matter. The highest temperature observed by Dr. Schönberg was 90½° of Fahrenheit; the lowest 27½°.

In general, the character of the diseases in spring (when the blood, as the natives say, is heated), is inflammatory; in summer, it is gastric and bilious, without any disposition to pass into a nervous type, unless treated with violent medicines. In autumn, inflammations again prevail; and in winter, rheumatisms and catarrhs. Intermittent fevers are occasionally seen in the neighbourhood, as well as putrid and marsh fevers near morasses.

The thoracic organs are not so often affected as those of the abdomen; scarcely two persons out of a hundred are free from piles; diseases of the spleen and liver, cachexia, and dropsies, are frequent. Pulmonary phthisis is not rare, commonly following a neglected catarrh. The Bedouin attendants at the baths suffer the most [from phthisis?], and cauterize their limbs, particularly at the wrist and elbow, with burning wood. The juices of plants, and balsams, are the ordinary remedies; if in six months they do no good, the case passes for mortal.

The climate seems to predispose persons to nervous diseases; there are a number of insane and epileptic persons, and a peculiar kind of headache is found here. Tetanus and locked-jaw often arise without any wound, and, indeed, without any cause that can be discovered. Purges given till they have slightly weakened the patient, then opium in enormous doses, and, above all, musk, form the treatment which is relatively the most successful. The plague is not endemic, but is brought in from the Levant: it then rages violently, though with remissions, and one sees people die of it in the streets.

Venereal diseases, especially of the skin, are much diffused, perhaps through the frequent use of vapour-baths, and do not hinder the patients from going into company. Sarsaparilla in powder, and given in decoction for a beverage, is administered for forty days, and this, with a diet confined to bread and raisins, and the use

of baths, forms the course; this is sometimes begun over again, and is then backed with calomel given according to the fancy of the prescriber. It is easy, therefore, to understand that salivation must be common, to the terror of the physicians and the patients. Buboes are treated by touching the circumference with the actual cautery.

The feast of Bagram gives rise to a colic which occurs in every house; for after a fast of thirty days the Algerines indemnify themselves by a feast lasting three days, where the favourite articles are pastry and sweet things. This colic is frightful from its treatment: two scarfs are put round the neck of the patient and twisted together, till he seems strangled; they are then loosened, and the patient, still quite stupefied, is violently pushed backwards and forwards by the knees of two men standing opposite to each other.

Dropsies are not rare, and among them hydroceles of great size are the most frequent. It is certain that the Arabs who live in the mountains possess very efficacious secret remedies against stone, gout, and rheumatism. A violent diarrhœa with tenesmus was soon cured by burnt cork in rum, which is also employed in Malta.

In a case of headache a salivation was beneficially produced by friction under the tongue with a piece of woollen cloth, and then sprinkling the tumor thus excited with salt and onions.

The French gave the name of epidemic dysentery to the disease which caused the greatest havoc in their army. Dr. Schönberg prefers calling it a cholera. It is an ulceration of the colon, unaccompanied by typhus fever, chronic in duration, and curable by leeches and emulsions. The headache above mentioned is an intermittent hemicrania, which attacks foreigners in particular. An Italian, who had suffered eight years under this disease, which even deprived him of consciousness, got well with ipecacuanha and quinine; and so did another. In one whole family, consisting of parents and children, the attack began with amblyopia, which increased to total blindness, lasting several hours. One member of the family recovered on leaving Algiers, and was again attacked on his return.

Diseases of the eye are all treated with lotions, and injurious ones too, as appears from the great number of the blind. Egyptian ophthalmia is not so common as at Tripoli.

Fractures are cured by covering them with gypsum, or by amputation. The limb is cut off by a blow of a sword, and then the stump is dipped in boiling pitch or touched with a red-hot iron. The actual cautery is also used in internal complaints, such as colic; and in cases of incarcerated hernia, what they call bleeding consists in scarifying the forehead and temples with a razor, by which the temporal artery is sometimes injured, or in wounding the Schneiderian membrane with a pointed bit of wood. Acupuncturation of the temples is much used against headache.

Burns and ulcers are cauterized, and then very successfully treated with the powder of a certain plant.

A tumor in the antrum of Highmore is of frequent occurrence; it is painful, becomes covered as if with a syphilitic herpes, and sooner or later involves the bones. For the sting of the scorpion (an animal which injures only when opposed, and is not common here,) the animal itself is crushed and put upon the spot: amulets, as may be supposed, are used against every disorder.

Dr. Bohn first introduced vaccination, and practised it in the family of the deposed Dey himself, who, however, did not give him a princely fee; and, generally speaking, people are here unwilling to give aught to physician or apothecary.

As to the native physicians, the Dey had a kind of protomedicus, who decided medico-legal questions, and created other physicians for a few piastres, without being exactly able to read and write. If a man was able to shave well, if he could compound a plaster, and cure a hurt, he bought the privilege, and prescribed at his own pleasure the whole contents of any of the six Moorish apothecaries' shops; bark with or without theriaca at all times; and in all fevers, opium, sarsaparilla, calomel, pimento, cantharides, and opodeldoc. Ismael Ben Mehmed enjoyed the greatest share of public confidence; he gave Dr. Schönberg an extract from the Arabic work of Ben Huesina, who lived 700 years ago, and a catalogue of his own drugs. His shop, the largest in the town, contained 70 jars, 30 bottles, 20 boxes, and several drawers. He obtained medicines from abroad, prepared others himself, and possesses a still and retort. He is afraid of mercury against syphilis, and thinks he can do without it.

Ismael Ben Mehmed is acquainted with remittent and intermittent fevers, and their varieties. His surgical apparatus consisted of a common case of dressing instruments.

Midwifery may be practised by any woman, but there is a certain experience which is handed down as an inheritance. There are both Moorish and Jewish midwives, and several of the latter are in repute. One of them attends from 130 to 150 labours yearly, and she says that from

three to five in a hundred require artificial aid, chiefly from the presentation of the arm or breech. The labour seldom lasts two days, and it is rare that the new-born infant or a woman in child-bed dies. Puerperal fever is unknown, and milk fever is mild.

The arrangement of the baths in Algiers is peculiar. Sea-bathing is used only for negro slaves; when they have the itch, they are driven into the sea once or twice a day, till they recover. Sweating baths are the usual ones. The bathing-house has a cupola like a mosque, and exhibits the most curious mixture of magnificence and poverty, of cleanliness and dirt. It consists of two largs rooms; in the first there are galleries covered with mats for undressing and reposing; in the bathing-room, which is much larger, are the pipes. As soon as the bather begins to perspire, he is laid down by the attendants, and rubbed, first with the bare hand, then with a woollen glove, afterwards with a lather of soap, while merry songs are sung, and lastly, washed with cold water. When the perspiration is over, the attendants again stretch and pull all the limbs of the bather, to make them supple.

A mineral bath in the neighbourhood of Algiers has come more and more into fashion since the nearly perfect recovery of the first minister from lepra, a disease which is by no means uncommon.

There is nothing which can be called a police for public health. The rubbish from trades of all kinds, especially oil manufactories, slaughter-houses, fishmongers, &c., and the narrowness of the town, favour malignant epidemics. Love affairs alone were in some measure regulated by the *mezouar*. Whoever went about a night without a lantern was imprisoned. Any Turk or Moor might keep a girl of the town, but he was obliged to state the fact before the *mezouar*. This officer was allowed to punish the girls with blows to the amount of 500, or 700. If they were caught in unlawful intercourse with Christians, they were liable to be put into a sack and thrown into the sea; while the man, to save his life, was obliged to embrace Islamism. Of these girls, the Moorish ones are most apt to be afflicted with syphilis. The French army has two hospitals for its own sick, and there is one for the Moors in the town; at the distance of two English miles from it there is another one for three hundred patients. When we reflect that these hospitals were formerly private residences, and were built almost solely for the purpose of excluding the rays of the sun, it will not be surprising that their arrangement is far inferior to that of a regular French hospital. The number of patients was considerable, the diseases being chiefly dysentery and the typhus fever. Formerly there were also a Spanish and a French hospital, well provided with funds, and every thing required for the treatment of the sick. They were for the benefit of the Spaniards and French who were slaves in Algiers.

METEOROLOGY.

THE AURORA BOREALIS.

To the Editor of the Medical Gazette.

Sir,

An Aurora Borealis, of unusual appearance, was visible here on Saturday evening, the 19th instant, and the following morning. It was first observed about half-past seven o'clock, and then presented the common phenomena of increased light in the north-western horizon, with occasional faint streams, extending slowly towards the zenith. These appearances, with slight variation, persisted until midnight; but from that period until two o'clock the phenomena were altered.

The lower portion of the whole northern horizon now exhibited a glow of light, circumscribed only at its just visible base by a long slender horizontal black cloud, which occasionally assumed the luminous appearance so as to be edged with bright light at its eastern extremity. Vertical streamers of luminous matter also extended upwards, and inclining towards the east, the heavens assumed a lurid blood-red glow. At intervals volumes of attenuated vapour rose from the main body of light, which had the appearance of steam bursting in jets and expanding over the face of the hemisphere. It was, I conceive, such an Aurora as that witnessed by Aristotle, who describes it as "an appearance observed by night in calm weather, and resembling flame mingled with smoke, or the distant appearance of burning stubble."

The horizontal cloud before mentioned did not appear to exert any influence in the production of the electric phenomena, as towards the close of the Aurora the clear sky and preternatural light were distinctly visible both above and below it; and although its edges and eastern extremity became beautifully iluminated, I could not observe any of the flashes or impulses of light proceeding directly from its body.

These appearances were accompanied by a continuous murmuring sound, such as would be produced by the action of a hollow wind through the leafless branches of the winter-trees; but

as a slight wind *was* stirring at the moment, it would be difficult to decide whether it arose from the latter cause or the Aurora. Authors have variously described the accompanying sound as a hissing, murmuring, rumbling, and cracking noise; and Pliny fancifully speaks of the sound of arms and the clang of trumpets heard in the air during the continuance of Auroræ Boreales.

A little after two o'clock a ponderous, fantastically-shaped, black cloud, drifted from the S.W. and obscured the face of the northern horizon. The first three succeeding days were exceedingly wet and squally. Meteors, in the shape of "falling stars," at various intervals, and in different directions, mingled their phenomena, during the seven hours, with those of the Aurora.—I am, sir,

Your most obedient servant,

R. H. Allnatt.

Wallingford,
Dec. 28th, 1839.

ACUPUNCTURE.

To the Editor of the Medical Gazette.

Sir,

In your last number was a very interesting letter on Acupuncture, signed "Lector." The writer says, "I send you these extracts with a view to set at rest the question of priority between your correspondent at Gravesend and Professor Graves, of Dublin," &c. &c. If "Lector" takes the trouble of referring to my lecture on Acupuncture in Dropsy, he will find that I never claimed any participation in the discovery; my only object was to render it more available by improving the details.

I remain, sir,

Your obedient servant,

Robt. J. Graves.

9, Harcourt Street, Dublin,
5th Feb., 1839.

BOOKS RECEIVED FOR REVIEW.

Elements of Chemistry, including the recent Discoveries and Doctrines of the Science. By the late Edward Turner, M.D. Sixth edition, enlarged and revised. By Justus Liebig, Ph. D., Professor of Chemistry in the University of Giessen; and Wilton G. Turner, Ph. D. Part III. No. 1.—Organic Chemistry, by Professor Liebig.

Illustrations of Operative Surgery, selected from the best writers, home and foreign; and also from Original Drawings made at the bed-side. Part I. No. 1.—Amputations.

An Address delivered at the Birmingham Royal School of Medicine and Surgery, at the Third Anniversary Meeting, August 28, 1838. By Vaughan Thomas, B.D., formerly Fellow and Tutor of Corpus Christi College, Oxford.

The Obligation and Extent of Humanity to Brutes, principally considered with reference to the Domesticated Animals. By W. Youatt, Author of "The Horse," "Cattle," and "Sheep;" Editor of "The Veterinarian," &c. &c.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, January 31.

John Burrell, Wakefield.—Joseph Slater, Halifax.—Thomas Purnell, Workey.—John Justinian Mercer, Hatstock.—James Hay Rothney, East Indies.—Theodosius Cayley Hutchinson, York.—Stephen Edward Sandys, Stonehouse.—John Ismay Atkinson, Gateshead, Durham.—Thomas Bradley, Barnard Castle, Durham.

Thursday, February 7.

Thomas Tucker Price, Hereford.—John Holland, Grasshill, near Chesterfield.—David Everett, Wix, Essex.—Frederick Clowes, Heacham, Norfolk.—Matthew Brumell, Morpeth.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Feb. 5*, 1839.

Abscess	4	Fever, Typhus	6
Age and Debility	22	Heart, diseased	1
Apoplexy	2	Hooping Cough	6
Asthma	10	Inflammation	7
Cancer	1	Bowels & Stomach	4
Childbirth	1	Brain	2
Consumption	39	Lungs and Pleura	12
Convulsions	15	Insanity	3
Croup	1	Liver, diseased	2
Dentition	1	Measles	2
Diarrhœa	1	Small-pox	7
Dropsy	8	Sore Throat and Quinsey	1
Dropsy in the Brain	7	Unknown Causes	56
Epilepsy	1		
Fever	5	Casualties	5
Fever, Scarlet	3		

Decrease of Burials, as compared with the preceding week . . . 91

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

	Thermometer.		Barometer.	
Jan. 1839.				
Thursday . 31	from 22	to 35	29·09	to 29·55
February.				
Friday . . 1	17	37	29·88	29·95
Saturday . 2	25	39	29·96	29·92
Sunday . . 3	30	43	29·83	29·73
Monday . . 4	27	43	29·72	29 79
Tuesday . . 5	29	43	29·96	30·02
Wednesday 6	37	43	30·03	30·09

Winds, N.W. and S.W.

Except the afternoon of the 1st and morning of the 2d, cloudy; snowing fast on the mornings of the 31st ult. and 1st inst.; rain fell on the 3d and three following days.

Rain fallen, ·6 of an inch.

Charles Henry Adams.

Wilson & Son, Printers, 57, Skinner-st., London

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, FEBRUARY 16, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

On the Chemical Constituents of the Urine, and the modes of demonstrating them.

Of Inorganic Matters.

Several inorganic substances, and foreign to the normal condition, have presented themselves in the urine. Some of these appear spontaneously, while others result from the administration of specific remedies.

Iron has been detected in the urine in combination with cyanogen—a peculiar compound of carbon and nitrogen. This urine is generally of a blue colour, owing to the presence of Prussian blue, as it is called; and iron in some form or other has been stated to constitute a portion of the urinary deposits in certain febrile conditions.

Iron doubtless exists in the blood, and therefore may, under peculiar circumstances, be voided in the urine; but the numerous difficulties in determining the state in which iron exists in the blood, and its insensibility to the most approved reagents, should make us cautious in pronouncing the presence of iron. The formation of Prussian blue is the test mostly relied on, and I would here give you one caution—to take care, in delicate investigations, to make yourselves thoroughly satisfied of the purity of your reagents. A want of attention of this kind, or, perhaps, more properly speaking, a too easy reliance upon those who professed to keep perfectly pure reagents, often led me at an earlier period into error, and imposed the necessity of a repetition of the analysis.

Of Medicinal or Accidental Impregnations of the Urine.

Many remedies have been administered with the view either of acting on the functions of the kidneys, or of altering the existing conditions or chemical constitutions of the urine. Many of these enter the blood, and are thus conveyed to the kidney. The evidences of such transit may be considered as admitting of a two-fold division, namely, sensible and chemical. Thus, many vegetable matters affect either the colour or the smell; as asparagus, for instance, and also turpentine. Others, however, act upon the kidney by being conveyed with the mass of blood into the vessels of the kidney. This occurs under different circumstances. In some instances the entire matter is conveyed to the kidney, separated in its integral state, and voided with the urine. Many saline substances have the property of thus passing unaltered with the urine. Most of the saline matters formed by the *mineral* or indestructible acids, as they have been named, as also the binary saline compounds, constituted of the simple supporters, or electro-negatives, and the simple bases, pass through the urine unaltered, and may be chemically detected in it. An example of this may prove satisfactory. Nitre is one of those salts which *naturally* do not exist in the urine; yet, if this salt be even medicinally administered, there will be abundant evidence of its existence.

Here is a specimen of urine passed by a patient who has been taking nitre for a gonorrhœal affection. The urine is not

very deep coloured, nor is its sp. gr. very high—about 1018: this seems owing to the quantity of water, the patient having indulged much in diluents. Here is some of the same urine concentrated by evaporation; you see it is much deeper coloured. Paper immersed in this urine and dried, burns like touch-paper—as you see in the present example. But the presence of nitre may be still more unequivocally demonstrated. In this capsule we have a portion that was first evaporated to dryness, and the dry residue acted on by alcohol; and the alcoholic solution set aside to evaporate at a moderate temperature, afforded the crystals of nitre which you see in the capsule. That they are nitre, we shall prove by adding a drop or two of sulphuric acid to one of them, with a few copper clippings, in this test tube, and you see, even without heat, nitrous gas is evolved, evidenced by the formation of nitrous acid with the orange red fumes; and these are rendered still more striking by the aid of a slight elevation of temperature, as you perceive. The potass we can demonstrate by adding tartaric acid in excess—and you see bitartrate of potass precipitates. Chloride of platinum also produces, as you see, the characteristic precipitate.

Acids also seem to pass through the urine—at all events we can cause the precipitation of lithic acid from the urine by the internal use of an acid; as, for instance, by the hydrochloric, nitric, &c. Here you see a specimen of urine passed by a patient who has been taking hydrochloric acid for some time, and you see it shews a strong acidulous reaction on the application of litmus. It also effervesces with solution of carbonate of potass, as you see. The acid administered by the mouth appears to pass with the urine—at least a portion of it, although this does not invariably happen. However, I have satisfied myself that an acid—identical with that administered medicinally—may be detected in the urine. Free hydrochloric acid may be detected as follows:—

If the reagency of the urine indicates a free acid, the urine should be put into a retort, and distilled from a water-bath into a receiver containing water, and kept cool with ice. The acid gas volatilizes, passes over into the receiver, and is condensed by the water, which will give indications of hydrochloric acid by the action of the usual reagents—nitrate of silver, a white precipitate, (chloride of silver). Distilled with peroxide of manganese, or with nitric acid, chlorine is evolved.

Saline substances formed with a vegetable or destructible acid, seem to suffer decomposition in the stomach; the acid and base are separated, and the alkali, if the base be such, eliminated, passes into the circulation, and is excreted with the urine. The acids themselves seem to be decomposed, and their elements re-arranged, or otherwise disposed off. Of this class are the carbonic, citric, tartaric acids, &c. There is no more effectual method of rendering the urine neutral, and even alkaline, than the continued exhibition of the alkaline carbonates, citrates, or tartrates. Here is a specimen of urine which is alkaline—you see it restores the blue tint to reddened litmus, and even reddens turmeric. I was desirous of ascertaining whether the free alkali under such circumstances found its way into the urine, and for this purpose I proceeded as follows—a process which some of you, perhaps, will take the trouble to repeat:—

A patient whose urine was strongly acid, and who occasionally passed small fragments of lithic acid gravel, such as you see here, was put upon a course of citrate of potass till the urine became alkaline in a well-marked degree. A quantity of this was evaporated to dryness, and the residue treated with alcohol. The alcoholic solution gave evidence of an alkaline reaction. Consequently the alkali, of whatever description, must have been in the caustic state; because if carbonated, the alcohol would not have dissolved it. But still to obtain it more pure, a current of carbonic acid was passed through the solution, by which the carbonate of potass separated and precipitated; but the urea and some other principles remained in solution. The carbonate was separated by filtration, and washed with concentrated alcohol. It was then dried at a temperature between 90° and 100° Fah., by which all the alcohol was driven off. The carbonate of potass was then dissolved in hot distilled water, and decomposed by quick lime. A portion of the solution of potass thus rendered caustic was distilled in a close vessel, so as to drain off the water. The residue was dissolved in boiling alcohol, and set aside to crystallize—and here you see the crystals thus obtained. The potass itself was identified by testing a portion of the watery solution of the potass with tartaric acid and chloride of platinum. It is of importance to know these facts, because they will often guide us in prescribing remedies, and adapting them to the circumstances of the constitution.

But still it must be stated, that the alkaline salts, which suffer decomposition *in transitú*, more frequently appear in the urine in the state of alkaline carbonates; the elements of the acids being re-arranged,

so as to form carbonic acid, which combines with the alkali, and which in solution would give an alkaline reaction to the urine. For it should be remembered, that even the *bicarbonates* of the alkalies exert an *alkaline* reaction upon the tests—not excepting even turmeric paper.

A subject, however, of equal, if not greater moment, remains for investigation—namely, whether, and how, the preparations of mercury pass through the kidneys, and if they are to be detected in the urine.

That mercury appears by some means or other to enter into the system, and even to amalgamate, as it were, with the tissues, there can be little doubt; although it seems very difficult to believe in all the extraordinary evidences upon this subject which have been recorded. Thus we hear of metallic globules of mercury being observed on the shin-bones laid bare by suppurating nodes—others found metallic mercury exhaled from the skin; while others, again, formed amalgams by placing gold coins in the mouth. Mercury also, in its metallic state, has been said to have been found in certain forms of cutaneous eruption, and even fluid mercury has been said to have passed with the urine. A case is also related in which a pound of mercury was found in the brain, and two ounces in the skull-cap. All, however, that can be said in reference to such statements is, that the observations of modern physiologists have long since failed to make similar discoveries.

There is, however, one circumstance which we must consider—namely, can mercury enter the blood; and if so, how does this take place? Orfila and other experimentalists have proved, that a grain of corrosive sublimate, injected into a vein, or placed in a wound, in a middle-sized dog, proves fatal in a day or two; consequently but a very small portion of corrosive sublimate could be taken into the circulation with impunity. But there are many circumstances which render it probable that many of the saline substances enter the blood in very different modes, or at least in modified states of combination. We know that compounds, ordinarily insoluble, produce their specific effects when administered internally: of this description are certain metallic oxides, insoluble unless in combination. Now such substances form in certain proportions with animal matter, as albumen and fibrin compounds, soluble or insoluble, according to the proportions of the constituent principles. To confine ourselves to mercury, we find that two parts of albumen form with one of bichloride of mercury an insoluble compound, consisting of two of albumen with one of undecomposed bichloride of mercury. But the compound is soluble in the following menstruums:—Cold solutions of the chlorides, iodides, bromides, and the alkalies; and in hydrochlorate of ammonia. It is also soluble in an excess of either constituent—albumen or bichloride of mercury. Hence, as many of the metallic oxides form with organic matter compounds, which, if not soluble in the ordinary menstruums, yet are found to be so in many of the saline solutions, and such as are to be found in the stomach, we can readily conceive how these agents can make their way into the circulation, and so pass out with those excretions which carry off the impurities of the blood. The emunctories through which the body is most effectually cleansed, are the skin, lungs, liver, and kidneys. It is said, that in persons salivated by long mercurial courses, evidences of mercury may be found in the excretions rendered by all these channels. Thus, it has been found in the exhalation of the breath and saliva, in the cutaneous transpiration, and in the urine. However, many very able and accurate chemists have searched, and searched in vain, for mercury in the blood, in the saliva, and in the urine. Devergie, by a process of analysis which I shall presently explain, endeavoured to discover mercury in the blood, saliva, and urine of persons under the influence of mercury, but without success; and he considers his process sufficiently delicate to discover the 122,680th part of a grain of corrosive sublimate in the blood. Zeller, however, asserts that he detected mercury in the blood, and, after death, in the bile; and Cantu asserts that he found it in the urine. When found in the urine, it was all contained in the sediment; and the residuum of the liquid portion, evaporated to dryness, yielded not a particle of mercury.

I have myself certainly seen metallic coins, and the gold cases of watches worn by persons under mercurial courses, coated with an amalgam of mercury. This, however, perhaps might be accounted for otherwise: it might be supposed that such amalgamation might have resulted from external contact. But, in answer, I would observe, that it occurred where the person adopted the internal use of mercury exclusively; and from its affecting the articles worn in the pockets, while the gold rings on the fingers escaped, I cannot help thinking that the insensible perspiration is one channel through which the system is freed from mercury. It was also remarkable in one of these cases, that when the body was exposed to the action of the air by going out, the effect upon the gold disappeared. It would, perhaps, have been interesting, under such circumstances, to have examined the urine. At all events, it seems to shew that the excretion of mercury by the skin appears checked

by exposure to cool air and free ventilation.

The urine, however, appears to be the excretion to which we should look for the presence of mercury. Devergie's process consists in digesting the suspected matter in diluted hydrochloric acid, which he says will dissolve all the solid matter, and dissolves the mercury. The solution is to be evaporated till the greater part of the hydrochloric acid is expelled. Water is next added, and a current of chlorine gas passed through, to coagulate the animal matter. It is next filtered, and boiled to concentrate. Slips of tin immersed speedily become coated with an amalgam of mercury. These are set by to dry, and fresh slips immersed, till they cease to be tarnished. The tarnished surfaces, when dried, are to be scraped, and the scrapings, put into a glass tube, are to be heated in the spirit lamp. The mercury volatilizes, and coats the internal surface of the tube with a ring of mercurial globules; while the tin being more fixed, remains in the bottom of the tube.

It may be observed of this process, that it can only be effectual when the mercury exists in such a state as to be soluble in diluted hydrochloric acid. Hence it will succeed in albuminated bichloride of mercury, the bichloride being readily dissolved out from the albumen by the acid. But if the mercury be reduced in any way, then this process would be inert, and was found so by Christison, with the compound formed by bichloride of mercury, in tea, upon which diluted hydrochloric acid, boiled gently for two hours, dissolved scarcely any of it, but left much undissolved powder, which afterwards yielded a large quantity of mercury.

With respect to the accidental constituents of the urine, or, in other words, the passage of substances from the alimentary tube into the urine, Woehler instituted a series of very careful experiments, of which the results are as follow:—

1. Matters which, when taken into the stomach, cannot afterwards be detected in the urine:—Iron, lead, alcohol, sulphuric ether, camphor, oil of Dippel, musk, and the colouring matters of cochineal, litmus, sap-green, and anchusa.

2. Matters which pass with the urine, after suffering some change or decomposition:—Ferrocyanide of potassium, which is converted into a compound with a less proportion of cyanogen (oxygen?), or prussiate of protoxide of iron, and potass; the compounds of potass and soda, with the tartaric, citric, malic, and acetic acids, changed into carbonates; hydrosulphuret of potassium, converted into sulphate of potass; sulphur in the state of sulphuric acid and sulphuretted hydrogen; iodine in the state of a hydriodate (iodide); oxalic, vinic, gallic, and benzoic acids, in combination with alkalies: hence he infers the futility of giving acids as remedies in calculous disorders.

3. Matters which pass unchanged into the urine:—Carbonate*, nitrate of potass, chloride, sulphocyanide, and hydrosulphuret of potassium (which is in greater part decomposed), ferrocyanide of potassium, with the smaller proportion of cyanogen, borax, chloride of barium, silicate of potass, tartrate of nickel and potass, and many colouring matters, such as those of soluble indigo, or sulphate of indigo, gamboge, rhubarb, madder, logwood, red beet, whortle-berries, mulberries, cherries; many odoriferous matters, also, which are in part changed, such as oil of turpentine (producing the odour of violets in the urine), the odorous principles of juniper, valerian, asafœtida, garlic, castor, saffron, opium; the intoxicating principle of the Agaricus muscarius; and in certain diseased conditions, fatty oil.

All substances which are excreted with the urine must be in solution, and not in the state of granules.

The matters which do not pass off with the urine are either eliminated from the system in other ways—for instance, by exhalation from the surface, as is the case with camphor—or they are reduced to an insoluble condition in the intestinal canal itself. Woehler directs attention to the fact, that the salts which are excreted with the urine generally increase the action of the kidneys. Many other medicines, he says, which are called diuretics, such as digitalis, are, he observes, termed so incorrectly; thus the action of digitalis consists in the removal of the cause of dropsy, the fluid being then carried off in the usual way; so that it is no more a diuretic† than quinine given for the relief of the dropsies which are produced by intermittent fever.

The next subject is, can mercury be detected in the urine? We have already made some observations upon this subject, and we find that mercury appears only to have been found in the sediments which had subsided. I have detected mercury in

* Carbonated alkalies seem to suffer, in part, at least, decomposition, as a free or uncombined alkali may, as I have already shewn, be detected in the urine.

† This does not appear to be a correct explanation of the mode of action of digitalis. Digitalis acts as a diuretic in certain conditions only, not in others. Thus it diminishes the force of the circulation. The activity of the circulation and absorption observe an inverse ratio, consequently the activity of the latter increases as that of the former diminishes. Hence, if the circulating fluid be reduced, and that one of the cavities be inundated with fluid, the absorbents becoming more active, take up the fluid, and pour it into the mass of blood. The kidneys are then set in action, and relieve the blood from the superfluous serum or water by an increased discharge of urine.

the urine, after a great many trials, only twice; but at the same time I must acknowledge, that my opportunities have not always been of the most favourable description. In the first case the urine itself contained no mercury, but there was a considerable sediment, from which a very small globule of mercury was obtained. The deposit was treated with phosphorous acid, subsequently boiled in caustic potass, and then in diluted hydrochloric acid, when a small quantity of a black powder remained, which, on subliming in a glass tube, presented a coating of mercurial globules, which readily coalesced into a single globule. The other was a case of dropsy. The urine was pale coloured, and had a tendency to deposit pale-coloured alkaline lithates. Mercury was given, and salivation speedily induced. In this state the urine was found coagulable by heat. It was allowed to stand some time, but no sensible deposit took place. The filtered urine, however, on being treated with protochloride of tin, threw down a flaky precipitate of a greyish colour, which, on being treated as above, gave traces of metallic mercury. Phosphorous and hypo-phosphorous acids threw down metallic mercury, which was easily separated by the means of purification mentioned above.

Allowing mercury to exist in the urine, in what state does it exist? When as an insoluble sediment, it is more than probable that it exists as a lithate of the oxide. Urine artificially impregnated with solution of bichloride of mercury precipitates the lithate; and probably, in particular circumstances, the phosphate of the mineral. Bichloride of mercury, when first added to urine, throws down a precipitate of a deep colour. This appears to be owing to the subsidence of the alkaline lithates, and which subsiding very slowly, keeps the metallic lithate also in suspension, and the supernatant fluid turbid. On boiling, however, the precipitate becomes of a dark grey colour, speedily subsides, and the supernatant fluid remains clear and transparent, though high coloured. If filtered immediately, it remains transparent till it cools, when it becomes turbid, and the alkaline lithates separate. The metallic lithate is easily decomposed, and the mercury detected. Here I add a small quantity of solution of bichloride of mercury to some urine, and you have an opportunity of witnessing the verification of these statements.

When mercury exists in solution in the urine, as in the case above mentioned, we must suppose that it is held in solution by entering into some soluble combination with the organic principles occasionally existing in the urine; as for instance, hyper-albuminated bichloride of mercury, and this is probably the form of existence in the above case. I have not had any very favourable opportunities of examining the blood or the saliva.

For the discovery of mercury in organic complication I know of no process less operose nor safer, or more efficacious than the following. It is equally applicable to the solid matters which spontaneously separate from the urine, as to the permanently fluid portions and its soluble salts. We shall describe the process as we proceed with the manipulations:—

Here we have the precipitate thrown down by bichloride of mercury from this urine, and separated by filtration; therefore, both the precipitate and the filtered portion contain mercury. We add to each nitro-muriatic acid*, consisting of three equivalents of hydrochloric acid, and one of nitric. This will dissolve mercury in whatever form, even the metallic; or retain that in solution, in the soluble state, owing to the evolution of chlorine. The organic matters are thus either decomposed and destroyed, or are coagulated, and are removed by filtration. The materials, in fact, should be boiled, and then filtered. Here we have done so, and no doubt can exist that the filtered fluids contain mercury in solution. To ascertain the presence of mercury in solution after the action of the nitro-muriatic acid, we may proceed in various ways; but the least objectionable is the precipitation of metallic mercury. If we precipitate the oxides by potass or lime, they may be held, at least in suspension by any co-existing organic matter; but metallic mercury is not subjected to such inconvenience. Protochloride of tin, phosphorous and hypo-phosphorous acids, precipitate metallic mercury from the solutions of its soluble salts, and, poured upon many of the insoluble compounds, reduces them to the metallic state. Thus, when I add protochloride of tin to a portion in this test-tube, a slate-grey powder, as you see, is separated. To the portions in these tubes I add phosphorous and hypo-phosphorous acids; and you see similar precipitates fall down from each of the tubes respectively. The rationale is protochloride of tin; and the acids have a strong tendency, the first to pass to the state of perchloride, and the acids to pass to a state of higher oxygenation, and to become phosphoric acid. This they do by deoxidizing the metal, and combining with its oxygen, by which it is reduced to the metallic state. The precipitate, in the case of the protochloride, should be boiled with caustic

* This seems a much preferable re-agent to Devergie's diluted hydrochloric acid, which does not act upon every form of mercury.

potass, which will dissolve any animal impurity, or any precipitated oxide of tin. It should afterwards be boiled with a little pure hydrochloric acid, which will dissolve any earthy salt that may have precipitated, and which the potass would not dissolve. If the precipitate should not become globular, it is to be sublimed in a tube with the heat of the spirit-lamp. When the precipitate has been thrown down by the acids, the boiling in hydrochloric acid is not essential, because the resulting phosphoric acid will keep the earthy phosphates in solution. We may also precipitate the mercury upon slips of pure tin, as suggested by Devergie; scrape off the amalgam, and sublime, as you shall now witness: or we may put into the solution a little of the pulvis stanni, which will have the same effect, and then sublime the mercury from the amalgam and the tin will remain unacted upon.

Upon the whole, I prefer the phosphorous and hypo-phosphorous acids to the protochloride of tin, because, if there should remain any undecomposed nitric acid, and which might act as a solvent of the mercury retaining it in solution, these will destroy the nitric acid, abstracting its oxygen, and reducing it to the state of nitrous gas, which will be volatilized and escape. The above process also appears to me much superior to Devergie's, because I know no mode of mercury which will resist boiling with nitro-muriatic acid.

THE SUBSTANCE
OF
TWO LECTURES ON SCROFULA;

Delivered at the Westminster Hospital Medical School,

By Benjamin Phillips, F.R.S.
Lecturer on Surgery at that School, and Surgeon to the St. Marylebone Infirmary.

To undertake to fix an epoch for the first ravages caused and produced by scrofula, and to seek in the earlier periods of the world's history traces and vestiges of this formidable disease, would be to occupy oneself with objects better adapted to amuse curiosity than to further the progress of science. The history of the ills to which flesh is heir, cannot, in fact, be truly useful or interesting to the medical man, unless it instruct him upon the causes, develop the progress, mark the changes, and indicate the remedies applicable to the particular disease. Although we may trace the existence of scrofula among the earliest historical monuments—although we could shew it to have been known to the Phœnicians, the Greeks, or the Egyptians—though we find in the works of the predecessors of Hippocrates data which are evidence of its antiquity—if the assemblage and combination of ideas, opinions, changes, disputes, and successes, do not assist us in forming a fair opinion of the disease, they bring no real advantage, and our investigations will have been useless.

That little exact information can be obtained by consulting such works in the study of this disease, appears evident when we look at the statement of Faure, made in 1752:—"It would (says he) certainly be too long, and not instructive, to consult a great number of authors who have written on scrofula, either generally or *ex professo*. It is sufficient to say that almost all modern authors, and all practitioners in the present day, admit the cause to be an inspissation of that lymph of which Thomas Bartholin discovered the vessels in 1652."

The ideas current in the days of Faure have given place to others; but our knowledge of the immediate or exciting cause of scrofula is at present little, if at all, more advanced than in his time.

By scrofula I understand a disease characterized by the deposition in the greater portion of the tissues of the body, but principally in the lymphatic ganglia, of a product presenting the following physical characters:—If we cut into the tissue of a lymphatic ganglion affected by scrofula, it presents a tolerably dense greyish substance, *interspersed* through which, in masses varying in bulk, we find a product of a yellowish white colour, and very much of the consistency of new cheese. Left to themselves, in this state these tumors communicate a certain irritation to the surrounding tissues, pain is felt, the integument is thinned, ulceration takes place; at first a sero-purulent fluid is evacuated. This is succeeded by cheesy, pultaceous matter. When the whole of this matter is evacuated, the ulcer may heal.

Scrofula is also presented in the form of cutaneous eruptions, particularly about the head. It also affects particularly certain organs. That species of ophthalmia known as strumous is one of the most frequent, and often one of the most obstinate of the affections of the conjunctiva. Children suffering from this disease, awake in the morning with the eyelids glued together; sometimes it is very difficult to separate them; they shew great aversion to light. Sometimes the disease proceeds to disorganization of the cornea. Ulcers of a like nature in other parts of the body are frequently developed: but in those cases admitted to be scrofulous, the peculiar deposition which we have considered is usually wanting. In fact these affections are held to be scrofulous because they are

commonly coexistent with glandular disease, and because they present many of the characters by which the more obvious forms of scrofula are marked. When the disease affects the articulations, the scrofulous deposition is found there, so also is it in scrofulous caries, in rickets, in the mesenteric disease termed tabes mesenterica. Therefore we are accustomed to regard these affections as scrofulous. Frequently it affects a complex fibrous tissue; for instance, the wrist-joint, the sacro-iliac symphysis. From this results that variety of the disease termed white swelling. Rarely does this end in resolution; suppuration supervenes, and caries of the articular extremities succeeds. Often the ligaments of the knee, the foot, the elbow, are the seat of scrofulous inflammation. If we examine a tumor of this kind, we see the fibrous tissues congested, the bistoury gets through it with difficulty, the areola of their tissues are enlarged; they contain a viscid, yellowish, gelatiniform fluid. Lassus compared the section of these tissues to that of a lemon. The articular cartilages, which, according to some anatomists, are inorganic, and which others regard as possessing a certain amount of organization, present traces of a similar affection. The articulations, where we find fibro-cartilage, present analogous alterations. The bones are very frequently the seat of a similar affection, especially the spongy bones. If we examine a bone which has been for some time thus affected—if we saw it, the vessels are more developed, and the cells contain a yellowish fatty matter. This condition usually proceeds to caries, or the periosteum is inflamed, detached, and necrosis is developed.

In investigating the nature of this disease, it is necessary to inquire what similarity it bears to tubercular phthisis—what resemblance scrofulous bears to tuberculous matter. Men of great eminence have regarded these as identical products. My own opinion is, that this identity remains to be proved; that the question is yet undecided. My reasons for doubting their identity are as follow:—Scrofulous matter, when deposited in lymphatic ganglia, is infiltrated through the interstices of their tissue, like water in a sponge. A consequence of this arrangement is, that a scrofulous tumor is not completely emptied when the parietes are ulcerated, but scrofulous matter continues to be evacuated until the whole glandular structure is broken down; and it is worthy of remark, that when the cicatrization is completed, not a vestige of the diseased gland can usually be discovered. Tuberculous matter, on the contrary, except in a small comparative number of cases, whether deposited in the lung, the liver, the spleen, the kidney, the testicle, the brain, is not an infiltration through the tissues of these organs, but a deposition at distinct points. In all the scrofulous tumors I have examined, the softening of the scrofulous matter succeeded to a surrounding suppuration. In the case of tubercles, the softening usually precedes this phenomenon. No doubt, in both cases, the abnormal product is the focus of irritation.

By far the larger portion of the cases of scrofula are presented before the age of puberty. The great majority of cases of tubercular phthisis are presented after eighteen. Of seventeen cases of scrofula where life had been destroyed by the exhaustion attendant upon profuse discharges from ulcerated surfaces and scrofulous caries, only one presented considerable tubercular deposition in the lungs, and nine presented scarcely a trace of it. Of eighty-six cases of tubercular phthisis, only one presented any cicatrix or other evidence in the neck, the axilla, or the groin, of having suffered from disease in the lymphatic ganglia in these several regions. Louis' experience is somewhat different: of 358 cases of tubercular disease of the lung, examined by him, 30 were found to present more or less traces of the deposition of similar matter in the lymphatic ganglia. But even if we assume this to be an average, considering the frequency of both diseases, it is not too much to presume that they were simple coincidences.

Again, if the perfect analogy of anatomical characters between these two products were admitted, we might say that the true nature of a disease does not solely consist in the transformation or degeneration of a tissue, but in the anatomical element which affects it—in the nature of the causes which determine it—in the mode of its transmission—the manner of its invasion—the order of succession of the symptoms which constitute it—in the effects of the treatment opposed to it.

It is also true that the countries other than our own where scrofula is most rife—Holland, Dauphiny, the Valais, the Vivarais, and certain portions of Brittany, present a smaller number of cases of phthisis than other countries where scrofula is more rarely seen. In the whole of the Oceanic region extending from La Teste to Mimigan, this remarkable fact obtains—the coincidence of extreme frequency of scrofula with excessive rarity of tubercular phthisis.

These are differences which I cannot reconcile: although, therefore, I do not admit absolute identity between these two

products, I do not absolutely deny it; I only mention that at present it remains to be proved.

It is said there is a scrofulous diathesis. If, by diathesis, it be intended to convey a condition of the economy in which the constitution is simply disposed to, but as yet unaffected by, the particular disease, I do not believe in it. I think that what is usually described as a diathesis is a first symptom, or series of symptoms, of the infection of the system by a disease which will presently shew the local characters of the same affection. If this period could be well made out—if it were ascertained that during this period no local deposition of the scrofulous product had occurred—then no doubt it would be a matter of great importance to employ such means as would appear to be capable of averting the impending evil. But if this disposition could be removed, science would be very jealous of admitting as facts what no two men might be disposed to agree upon—the existence in a particular case of this particular diathesis.

In the second period no such difficulties are experienced; the disease appears with its characteristic symptoms, the organization is modified, the functions are deranged, and the disease is unmasked. The first and commonest symptom is the tumefaction of the lymphatic ganglia. At first they are small, moveable under the finger, elastic, without pain or change of colour in the skin. The lateral and sometimes the posterior parts of the neck are the first to feel the influence of the disease; therefore the early examination of these parts is of much importance in establishing the diagnosis. At a little later period the axillary glands may be affected; sometimes those of the groin, or of other parts of the body. Gradually they increase in size and consistency; the ambient structures are affected, and then the mobility is no longer possessed. It is rarely that a single gland is affected: usually several are almost simultaneously implicated. As they increase in bulk, they approach each other, are confounded, and often a large tumor or chain of tumors (scrophulæ concatenatæ) is the consequence. I have known such a chain to extend from the neck to the mesentery. But there is a peculiarity in these tumors, which suffices, in those persons accustomed to look at them, to distinguish them from all others: it is a certain degree of elasticity which it would be very difficult to describe. They may remain in this state for many years, but their existence is very inconstant: they will even disappear for a time. Usually, however, they make progress, become harder and less moveable, the skin over them gets red, a pain is felt towards the centre of the gland, inflammation proceeds slowly, and suppuration is established; the skin ulcerates, and a thin serous pus is discharged.

There are certain characters impressed upon those persons who are to become the subjects of the ravages of scrofula, which I shall now notice. You must, however, bear in mind, that although this be true in most cases, yet that the conjunction of all the characteristics is not always sufficient to justify us in concluding that the person is scrofulous. Commonly scrofulous children are remarkable for the size of their head—for a tendency to eruptions or scurf on the scalp—the intellectual faculties are often greatly developed—for a tumefaction of the free borders of the eyelids—an extreme susceptibility to the impression of light. Schmucker has pointed out the length of the eyelashes as another character; a flattening of the root of the nose, an excessive volume of the lips; in some the cheek-bones are high and broad. Chaussier attached much importance to the examination of the teeth, believing that the greater number of children disposed to scrofula have bad first teeth. The neck certainly presents two opposite conditions; either it is thin and elongated, or it is short and thick, so that the head seems to be between the shoulders. Very commonly you will find in scrofulous patients a vicious conformation of the chest; the thorax is narrow, and arched in front—pigeon-breast, as it is termed; the shoulders are raised: this projection forwards of the chest renders more sensible another characteristic—the large abdomen. In the greater number of patients threatened with scrofula the digestive functions are irregularly performed, the appetite is depraved or lost; frequently they suffer from diarrhœa; the skin is usually of a rosy white, fine, transparent, with the cutaneous veins very apparent. Some authors wishing to find in the colour of the hair a distinguishing sign, have laid down as a rule that scrofulous patients have blond hair. This proposition is much too general. Observation demonstrates, as I shall presently shew, that we meet a larger number of the shades of dark than of blond in this disease. There are certain distinctive characters presented by the extremities: usually they are thin, without the ordinary quantity of muscular power; but the articulations are large, and this is especially apparent at the knee and the elbow. Sometimes this apparent enlargement is delusive, and is produced by the want of natural fulness in the limb; at other times disease has commenced in the articulations, and tumefaction exists there, affecting principally the fibrous tissues. Again I repeat that each of the appear-

ances I have enumerated may exist without a scrofulous constitution; but their conjunction is most important, and calculated to produce a conviction of the existence of the disease we are considering.

Of all the infirmities which afflict the human species, scrofula is certainly one of the most tedious and most difficult to cure. It belongs to the class of diseases termed constitutional; that is, a disease so identified with the economy, that a considerable change or impression must be made upon the system generally, before we can destroy this condition.

Nature seems to have much more power than art in bringing about such a revolution. It is not rare that we see the strumous constitution losing its intensity, and completely effaced, under the influence of those changes brought about at critical periods of life.

Considered in its ordinary limits, scrofula is a disease proper to an early period of life, and also a very common one; it is not of itself mortal, but may become so by affecting organs essential to life. It may terminate in many ways, either by complete resolution, leaving no trace, which unfortunately is rare. Suppuration is the ordinary termination. It varies singularly in its duration. When it is preceded by acute and painful inflammation, it is rapidly brought about; pus does not then present the usual characters of scrofulous suppuration. When, on the contrary, the inflammation is slow, the pus is thin and serous; it has not that white creamy aspect which we see in healthy pus; it is not thick, but whey-like. These tumors ordinarily contain "tuberculous" matter, consistent or softened. When scrofula affects bones, it has analogous terminations. Most commonly its progress is slow; this is partly owing to the nature of the affected tissues, but it may terminate by resolution. Often the fibrous tissues which surround an articulation form large masses; "tuberculous" matter is deposited in their interstices, and the joint acquires sometimes a very large size.

There are certain diseases common to our climate, the ravages of which are unquestionably increasing in frequency, if not in intensity; and of these scrofula is one. Our power over this disease, when once developed, is comparatively inconsiderable. By that I do not mean that we are not frequently able to combat with success glandular depositions, but the disease is constitutional, and this it is difficult to modify so as to eradicate the disposition to new deposits when old ones are removed. We cannot, therefore, reasonably hope to lessen its ravages until we can exert some restraint over those causes under the influence of which it would seem to be developed; to them consequently much attention should be devoted, for the purpose of determining the more efficient of these causes, and the extent of our power to exercise over them any control.

Among the causes of this disease numerous agents have been ranged: of these the principal are hereditary transmission, lymphatic temperament, contagion, syphilis, food, filth, clothing, vitiated air consequent upon imperfect ventilation. Now with respect to these so-called causes, no doubt one and all of them may be so mixed up with particular cases, as to render it difficult to prove that they may not have stood in the relation of cause and effect; but such apparent relation in particular cases will be dissipated, if I shew that, in a very large majority of cases, one or more of these causes has been absolutely wanting.

If we assume tubercular and scrofulous matter to be identical, I do not hold that the specimens referred to in different Museums, where tubercles were developed during intra-uterine life, support this conclusion, because it is not shewn that in these cases the parents presented any similar condition, and because unquestionably diseases may be developed during fœtal life which the parents did not present. It may be said, and no doubt truly, that "hereditary" diseases are not necessarily manifested at the moment of birth; but I think that it is equally true, that there is a great want of cohesion in the idea generally current with regard to hereditary diseases. Cullen states that he knew a family the father of which was tainted with scrofula: all the children who resembled him were scrofulous, whilst those who resembled the mother were exempt. It is necessary to bear in mind that Cullen was strongly preoccupied in favour of hereditary transmission in this and other diseases. In the affected families which I have examined, the father was affected only once, whilst the mother had suffered in eight cases; and my own observations in this and other hereditary transmissible diseases lead me to the conclusion, that the mother is a much more important agent in this mode of propagation than the father. Again, with respect to this influence, those who, like Cullen, believe that it is almost always hereditary, or like Lemasson-Delalande, who stoutly maintained that it could never be acquired, find themselves frequently involved in serious difficulties, especially when it is impossible to pronounce for the existence of similar disease in the parents; but there is no difficulty so great as that it may not be overleaped; and this difficulty is dissi-

pated by passing back through one, two, three, or any other number of generations, until we find some ancestor in whom the disease had existed; and when we consider how commonly, unhappily, this disease is seen in our own land, it would be unfortunate, indeed, if it were necessary to pass through more than two or three generations before we arrived at some miserable sufferer from its ravages. Kortum clearly set forth the cause of this error when he said, "Fuere è recentionibus varii qui similes progeniei et parentum morbos à simili diæta et vitæ genere potissimum repeterent."

I will now proceed to offer direct evidence in favour of the opinion I entertain that scrofula is not ordinarily a consequence of hereditary transmission. I do not propose to seek to establish that such transmission is impossible. Eighty-three children, presenting unequivocal signs of scrofula, in various forms, and living in the parish of St. Marylebone, were found to be the issue of fifty-eight marriages. Of the hundred and sixteen parents eighteen were either dead or missing; and of the remaining ninety-eight, nine only presented any marks of scrofulous affection. In none of these cases were both parents affected. The children proceeding from these nine families were in number thirty-nine, and of these only eleven presented any of the ordinary forms of scrofula. Of these eleven, three were found in one family, and one in each of the remaining eight.

This evidence appears to me strongly to favour the conclusion, that if hereditary transmission have any influence in the production of this disease—that if the cause rest upon the parent at all, of entailing involuntarily upon the offspring the disease we are considering—it does not exist to the extent which is commonly supposed; and I cannot admit it to be proved at all.

Of the families indiscriminately taken, in which scrofula was found to affect one or more of the children, only two in fifteen presented the disease either in the father or the mother; and these families actually presented a smaller proportion of cases than those families in which neither parents presented any mark of the disease.

The *lymphatic temperament*, so much insisted on as a cause of this disease, does not, I apprehend, cause the disease at all: in fact, of the eighty-three cases already referred to, forty-six presented dark chestnut or black hair, dark complexion, dark eyes, active and spare habits; whilst of the remaining thirty-seven much difference of opinion existed as to the class to which they belonged—at least ten of them should be excluded from the temperament termed lymphatic. Therefore I would maintain that the opinion of Richerand, that the lymphatic temperament exaggerated constitutes scrofula, is incorrect; and the opinion I entertain on the subject is, that the particular constitution which it is said especially predisposes to scrofula, is nothing else than a constitution upon which scrofula has already seized, and impressed certain marked characters—such as a fine transparent flabby skin, a large face, thick lips, with a great tendency to crack, frequent eruptions on the scalp, stoutness conjoined with feebleness, more imagination than physical power. I believe, then, that the lymphatic temperament in no way predisposes to this disease; but if other causes excite its production, I admit that the lymphatic temperament would offer less resistance to its development than any of the others.

The question, whether or not scrofula be capable of communication by *contagion*, is one of so much importance to the happiness of families, that it might naturally be expected that considerable attention would be devoted to the subject, for the purpose of determining whether that separation or isolation which is often so distressing, was a precaution which the heads of families could not neglect with impunity. Happily, at this moment, the commonly received opinion is, that the disease is not contagious; and I am not about to state any think which can throw doubt on such a desirable conviction, but I am bound to lay before you the evidence, or at least such of it as is material for you to know, upon which this conviction rests. It is true that in the last century, the question of contagion, as a quality of this disease, was submitted to the Faculty of Medicine of Paris by the Parliament; it is equally true that an affirmative answer was returned; Dalaurens stating, "Contagiosum esse multi experiuntur." Of course so long as the disease was supposed to be the result of a particular virus introduced into the economy, the probability of contagion could be with difficulty denied; but in the present day, when that opinion is no longer tenable, the advocates of contagion are dropping off. In the Hôpital des Enfants, at Paris, where commonly from a hundred to a hundred and fifty beds are occupied by scrofulous patients, exhibiting the disease in every stage and form, no facts have been observed to warrant this opinion. In a school in my own neighbourhood where the disease is very commonly seen, the sufferer from scrofula, unless confined to bed, mixes indiscriminately with those who are healthy—at meals, at play, and at night they occupy the same dormitories; but no circumstances have ever occurred to war-

rant a suspicion of contagion. In families, we find two brothers or two sisters sleeping together, one suffering from this disease, the other free from it, but no communication. I therefore unhesitatingly say with Kortum:—"Quotidie occurrunt exempla ubi sani infantes cum scrophulis arcto et ipsius lecti consortio fruuntur, nec tamen ipsis morbus communicatur." But then it is maintained, that in families we very frequently see the disease developed in one child after another, until a whole family have been infected, and that here contagion must be admitted. At this moment I know a family in which the disease has occurred in an aggravated form in every child but one of a large family; but in none of them is it manifested before the age of seven: the one who has escaped was removed from home at eight; the father and mother are free from it; but every child save one has acquired the disease—not by contagion, for they would have suffered earlier in that case, in consequence of being much more together than at any subsequent period—they acquire it under the influence of circumstances to which I shall presently allude. They resist it until they are pulled down by the irritation attendant upon the second dentition.

With respect to direct experiment, many objections may apply to it: certain diseases may be caused by respiration; certain others by the direct and simple contact of a virus; others, by inoculation. In the disease under consideration, upon which test should we rely? what fluid or solid contains the germ of the disease? Hebréard has inoculated dogs with scrofulous pus without success; Lepelletier has repeated the experiment upon Guinea pigs with a like result; Kortum has rubbed the neck of a child with pus furnished by a scrofulous ulcer—he has even made a wound behind the mastoid process for the purpose of inoculating a child with similar pus, but without exciting the disease. But when should this pus be taken? Sœmmering believed that the experiment would succeed if the ulcer presented the characters of the disease in considerable intensity—but it is a mere matter of opinion. A colleague of Lepelletier, at the same time that he vaccinated many other children, inserted pus proceeding from scrofulous ulcers. The vaccine virus manifested itself in the ordinary way, but scrofula was not developed. I can conceive no justification which this person could offer for this wanton outrage. Lepelletier felt this, and made himself the subject of experiment; he inserted similar pus under the integument in various parts of his body, but no symptom of scrofula was manifested. Again, to test the opinion of those who maintain that the contagion of this disease resides in the cutaneous transpiration, he inserted under the cuticle, at several points, the fluid taken from a blister applied upon the body of a scrofulous sufferer; a little suppuration occurred at one puncture, but on the fourth day it was entirely dissipated. Mr. Goodlad has performed similar experiments, and with similar results. To the case of Rowley, in which he says, the inoculation of small-pox produced scrofulous tumors in the neck, I attach no importance, because it does not appear that the virus was taken from a scrofulous person, and because small-pox appears frequently to excite the development of scrofula. De Haen maintains that scrofula more commonly succeeds to inoculated than natural small-pox. Cullen supports an opposite opinion.

To my mind these experiments carry no conviction either way. And if experiment be capable of determining the question, it is yet to be made. If I were to perform any experiments on the subject I should not employ the pus proceeding from a scrofulous abscess. And for this reason there seems to be a period when the ulceration which marks certain contagious diseases, does not furnish a pus capable of propagating that disease; I would, therefore, prefer inserting under the integuments, the tubercle-like matter, which is the marked pathological characteristic of the disease in question.

I do not think it necessary to occupy your time long with the question of the communicability of the disease to a child through the milk of a nurse, because I can throw no light upon the matter. Bordeu thought it was impossible to deny it. How, says he, can you refuse to admit, that a virus so intimately mixed with solids and fluids should not be communicated by means of the milk to a sucking child? First, it is necessary to show that a virus exists; and next, that it must necessary be contained in the milk. Syphilis pervades the system pretty completely, and yet I am not aware of any case in which the disease has been communicated to the child solely my means of the milk of the affected person. Direct experiment here is difficult; we do not choose a scrofulous nurse to suckle a child; and if the mother be the scrofulous nurse, we have no more right to believe that a virus has been contained in the milk than that the disease was hereditary; for then we should have to deny the influence of other agents, which we shall speedily consider. So much, however, is certain, that if we admit—which I have not done—a similarity in nature amounting almost, if not alto-

gether, to an identity between scrofula and tubercular disease, we may then support ourselves by this fact, that in those cows which suffer from tubercular deposits, the milk presents, as was shown by Labillardière, seven times more phosphate of lime than is found in the milk of a healthy cow. If we admit for the moment, that the milk of a woman suffering from scrofula undergoes a similer change, we have yet to prove that such a change in milk is capable of producing scrofula. Of one thing I have little doubt, that the milk of a person so suffering is less fitted for the purposes of nutrition than that of a healthy woman; but it is not proved that deficient nutrition alone is the cause of scrofula.

If we take as a fact—the truth of which is generally admitted—that syphilis was unknown in Europe until the return of Columbus from his first voyage to the shores of the New World, it must, I apprehend, be also conceded, that scrofula was not originally "degenerated syphilis, subsequently transmitted hereditarily." I am, therefore, at a loss to understand any sufficient ground why men of considerable reputation have so stoutly maintained this hypothesis. These authors, it is true, maintain that there is the greatest similarity between the two diseases; that both produce ulcers of the skin and caries; that both affect lymphatic glands, which become tumid; that both are cured by similar means. To me these positions appear preposterous. Take first the glands: in syphilis it is those of the groin or thigh which are usually affected; in scrofula those of the neck: in syphilis, caries usually affects the head or neck; in scrofula, the extremities, and especially their points of articulation, principally suffer. Mercury is the remedy in syphilis; mercury, similarly administered, is a most baneful method of treating scrofula. There are other reasons which may be brought to bear against this hypothesis; that in many situations syphilis is extremely common—scrofula very uncommon. Take Palermo, for instance, where syphilis is probably more rife than in any part of Europe, scrofula is comparatively rare. Therefore, even if we admitted that syphilis was known in Europe from very early times, it is still very far from being proved that it is the cause of scrofula; but I apprehend it to be clearly made out that scrofula has existed in Europe for centuries long anterior to syphilis. I am aware that those who maintain the hypothesis we are considering, deny this early existence of scrofula, and urge, in support of their plea, that struma and scrofula are different diseases. But any one who reads attentively Celsus, Guy de Chauliac, or Roger of Parma, can urge no valid objection in support of this opinion. Again, if we take the power conceived to be possessed by kings of curing this disease by the royal touch, we may follow this disease from the days of Clovis, in the fifth century, up to a very recent period. In the absence, therefore, of better evidence, tradition would come in support of the identity. Clovis was supposed to have derived this power, as all other kings were conceived to have acquired it, by inunction. I know it is believed by some persons that syphilis existed in Europe long before the days of Columbus, and that the Book of Leviticus has been appealed to in support of this view of the subject, as well as the work of William of Salicetus, whose descriptions seem to be more specific, and which bears date 1280; but I know, also, that the best authorities are opposed to this view of the matter.

[To be continued.]

ON THE

STRUCTURE OF THE TEETH,

THE VASCULARITY OF THOSE ORGANS, AND THEIR RELATION TO BONE.

By JOHN TOMES.

(For the London Medical Gazette.)

THE following, if some verbal alterations be excepted, is a copy of a paper read before the Royal Society, June 21st, 1838; to which is added, in the form of notes, the results of subsequent examinations:—

In England, the structure of the teeth, up to the present time, seems to have been but little known or sought after. This has not been the case in Germany. Several physiologists of that country have investigated and described these important organs, not only in man, but also in some of the lower orders of animated beings, and have given figures illustrating the subject. It was my fortune to have examined microscopically the teeth of man, as well as those of many other animals, to have prepared drawings and to have written a paper, before I became aware to what extent the subject had been canvassed. I had, however, one consolation in my disappointment, which was, that that which I had described corresponded in the main with what had been seen by the German physiologists; and more, that I had carried my researches to a greater length than they

seemed to have done*; the conclusions from which, together with the describing of some parts and connexions, that, to the best of my knowledge, have not hitherto been told of, will form the subject of this paper.

Since the results of my own observations in no way differ from those obtained by the German investigators, except in being rather more extended, I may, perhaps, be allowed to describe, after my own fashion, the various structures which go to form a tooth, noticing on the way, as far as I know, the length to which my predecessors have gone. My particular purpose is, not so much to describe the minute structure of the parts of a tooth (though this will be necessary, in order that I may be understood), as to trace the intimate relations existing between dental structure and that of bone. In order to do this, it will be necessary to notice, the teeth of the lower animals proceeding as low in the scale as the osseous and cartilaginous fishes; for since the teeth do not form an exception to the general modification which the various organs undergo as we descend in the scale, but are in their turn of more simple construction, we shall by them be better able to understand the more complex structure of the teeth of mammalia.

A simple tooth, as it occurs in man, is composed of several structures, differing from each other, not only in their physical characters, but also in chemical composition. These elements, if I may so call them, are definitely arranged, their relations being such as best fit them for the part they have to play in the animal economy. The greatest bulk of the tooth, that part which contains in its centre the cavity for the pulp, and has resting on it the enamel, and below this the granular and osseous layers, is composed of tubes, arranged side by side, not parallel to each other, but in a radiated form, the central cavity being the point from which each tube starts. These are placed in a transparent medium, the use of which seems to be to cement the whole into one solid mass. From this arrangement of the tubuli it follows, that the above-named substance must be the more abundant the further it is removed from the central cavity.

In the healthy condition, the tubes in mammals, as far as I have examined them, have contained more or less opaque matter, the composition of which is phosphate and carbonate of lime. That carbonate of lime enters into the formation of this amorphous mass, if such it be, the phenomenon presented in the following experiment leads me to conclude*. After having reduced a transverse section of a giraffe's tooth sufficiently thin to render the tubuli visible by transmitted light, I added to the section, while it was under the microscope, dilute muriatic acid. Chemical action immediately commenced, gas was disengaged, and proceeded from the cut extremities of the tubes. In more than one instance I saw the gas in the shape of small bubbles while in the tubes, and traced it to its exit at their extremities. Before acid is added to a thin section, either taken in the longitudinal direction of the tubes, or cutting them transversely, opaque lines in the one, and dark points surrounded by a laminæ of transparent matter in the other case, present themselves to view. In the longitudinal course, indeed, the tubes are principally rendered apparent by their contents†. In some of the lower animals, such as the osseous and cartilaginous fishes, the tubuli constantly exist, but contain much less of the earthy matter than do those to which I have been alluding. In man, the tubuli, after

* Being unable to read German or Sweedish, all that I knew of the subject, as investigated by others, excepting a few facts mentioned by Professor Owen, at the College of Surgeons, may be found in the first number of Dr. Baly's translation of Müller's Physiology; since the publication of which, a short abstract from Professor Retzius's work on the Structure of the Teeth, has appeared in the appendix to the fourth number of the above-mentioned translation, and with a further account than is there given of the investigations of continental physiologists I am at present unacquainted.

* A pig, five weeks old, was fed upon a mixture of barley, flour, and madder, for twenty five days (from Sept. 19th to Oct. 14th, 1838,) at the end of which time I had him killed. The bones and teeth were of a brilliant red colour. A section of a tooth showed the colouring to have commenced at the surface of the fang and from the pulp cavity. Towards the apex of the fang, the formation of which was not completed, the whole thickness was coloured; but from the central cavity the reddening had extended but a short distance into the parietes. As far as I can judge, it is the tubuli, their connecting medium, and the transparent matter of the bony layer which are affected by the colour; the contents of the tubes and of the bone corpuscules remain unaltered. If this opinion be found correct it will be an additional reason for supposing the contents of the tubuli and of the bone corpuscules to consist almost entirely of carbonate of lime.

† In the early stage of caries the tubuli lose their contact; in the fangs of old teeth also, which are about to fall out, the opaque matter is frequently absent, rendering the tubuli much less distinct.

having proceeded some distance from the central cavity, send off numbers of very minute hair-like fibres, so small that it is only by the aid of a magnifying power of about 400 diameters that they become visible. This arrangement is not confined to the teeth of man, it is present in those of other animals; but the branching fibres are larger in the latter.

The tubuli, as they approach the enamel, when that substance is present, and the granular and osseous substance where the enamel is absent, break up into several smaller ones; these anastomose freely with others about them, and are either lost in the boundary line between the tubular structure and the enamel, or are continued into the last-named substance. When the granular layer is next to the tubular substance, as is the case in the neck and fangs of simple teeth, the fibres of the tubuli are lost as they approach it*.

To see a tube after it has proceeded but a short distance from its commencement at the central cavity, enlarge in its lateral dimension, and send off numerous fibres, which, meeting others, anastomose with them, is by no means an uncommon occurrence. This condition remarkably resembles the corpuscules of bone, as I shall have afterwards to point out. In this structure, then, as it occurs in the human tooth, of which I have been principally speaking, we see that there is a constant connexion kept up throughout the whole mass by numerous anastomoses between the tubuli.

In the teeth of the giraffe the tubuli are larger in size than are those of some other teeth, are here and there transparent, and give off during their whole course numerous and considerable branches.

The elephant's tusk, as well as the teeth of some other animals, as the walrus, have to the naked eye a laminated appearance: this is not their true structure. If we make of such a tooth a thin section, the tubuli will be seen not straight in their course†, as those hitherto described, but frequently curved at regular distances; and those points of curvature in each tube corresponding in situation to those of its fellows, in part contributes to give the laminated appearance; but this is not all, the deception is principally due to the greater opacity at certain and corresponding points of each tube, as well as to granular matter which is placed external to them at such parts.

These circumstances render the part in which they occur much more opaque than the adjoining substances, and thus comes the appearance of the laminæ so often talked of. Now since the animal and earthy ingredients are unequally distributed through the whole, it is not difficult to conceive how a tooth, partly decomposed, should break up into laminæ*.

The most interesting modifications of the structure under consideration are to be found in the teeth of fishes. The tubuli of the teeth of the wolf-fish are very large, and take the direction of the length of the tooth; but what is still more interesting, especially in tracing the analogy between dental substance and bone, is, that the tubes are continuous with those of the subjacent osseous structure. All the difference between the two being, that in the tooth the canals all take one direction, thus observing a definite arrangement, while in the bone they pass in any way, sometimess crossing each other in their course.

Towards the external surface of the tooth, after many branchings and frequent connexions, so as to form a network, the tubes end, few only having penetrated the granular-looking substance which corresponds to the enamel. When a section of this tooth, with some

* Retzius found that the terminal branches of the tubuli not unfrequently end in a granular body or cell. This arrangement is very distinctly seen in the teeth of some animals; the canine teeth of the hedgehog, for instance: but in the human teeth, generally speaking, it is not so apparent.

† Professor Retzius, in speaking of dental tubuli, says, "Their course is, for the most part, waving, each tube having three curves, like the letter ʒ. Besides these primary curves, the tubes, when examined with a higher magnifying power, are seen to present smaller secondary undulations." This appearance I have frequently seen, but cannot consider it free from exception.

* Baleen, or whale-bone, is composed of three layers, the two external of which consist of parallel fibres, with here and there slight seperations between them. The middle layer is composed of canals, around which are numerous well-marked concentric laminæ. Small opaque oval bodies destitute of branchings pervade this, in common with the external layers. The canals at the base of the baleen plates are comparatively large, but diminish in size the further they are situated from the secreting pulp. A membranous substance, like the coats of a vessel, may be seen in some of the larger canals, between which I have not traced any connexion. Near the inferior border the canals are of irregular size and shape, and are often divided by septa.

of the subjacent structure, is examined without the aid of a magnifying power, there appears to be a line marking the separation of the tooth from the jaw.

This line we find to be produced by a number of canals that are cut across; but at the same time it is seen that the portions between the cut canals are continuous, and that it would be difficult to say to which structure those portions belong, whether to that of the tooth or that of the bone, so similar are they to each other. In the sheep's-head fish the dental tubuli are small, scarcely larger than in the more highly developed teeth. Though in this fish the line that marks the commencement of the dental substance is distinct, and the difference between the osseous and dental structure very marked, yet numbers of canals pass into the last-named from the subjacent structure, which, after proceeding towards the crown of the tooth, turn upon themselves, and appear to proceed back to the part from whence they came.

I have observed this arrangement of canals only in the tooth of which I have just spoken. In this tooth very many of the tubuli pass into and form part of the enamel.

The teeth of the Port Jackson shark present another very beautiful modification of the tubular structure. The tubuli here are very large, so that we can, unaided by a lens, see them commence at the base of the tooth; however, they do not long continue of this large size, but immediately commence giving off branches, which again divide and subdivide, forming, as they proceed, numerous anastomatic communications with neighbouring tubuli. Not unfrequently the large branches, as they approach the surface of the tooth, unite with others of equal dimensions, so as to form loops, with their cavities directed towards the enamel, which, in great part, is formed by the fibres given off from such loops, as well as from the smaller subdivisions of such tubes as have connected themselves to others only by the anastomoses of small fibres. Such a tube as that last alluded to remarkably resembles, when viewed through its whole course, a willow branch. The grinding surface of these teeth is marked by a number of small convexities, and, of course, just as many concavities, which last are regular in shape, each forming a segment of a circle. With this condition of surface there is a peculiar arrangement of enamel, the fibres of which are placed in a radiating form round the concavities. By this provision the fish is enabled to keep between its teeth, and to crush, animals which would have escaped him had the surface been smooth. I have seen another modification of the tubular structure. It occurs in the meliolatis. The tubuli are exceedingly large (seldom dividing into more than two branches), and these terminate, when they have come near the surface, in rounded extremities, without having diminished in size. From their commencement at the base of the tooth these large tubes give off from, or have connected with them, small opaque fibres, which are placed at right angles to the tubes. I have in no instance seen these large tubes containing any opaque material, though the small ones connected with and which in fact radiate round them are always opaque. From the shape of the tooth, as well as from the large tubes, with their radiatory fibres, I am disposed to think that each tooth is composed of a number of lesser teeth united to each other, and that each large tube corresponds to a pulp cavity.

The enamel, as in the other instances of this class which I have noticed, is partly composed of tubuli. There are many slighter modifications of this structure, which it is unnecessary for me to mention, since it would tend nothing to my purpose. I may perhaps observe that the teeth of the common shark have branching tubuli; that the enamel is formed of them; and that at the base of each tooth there is osseous matter, like that in some other fishes, which serves to connect the tooth with the cartilaginous jaw *.

* The gastric teeth of the lobster consist of a brown translucent substance, which is laminated, but with a faint trace of lines passing from the base to the grinding surface. In this, as in other respects, it is analogous to the external covering of the animal. The base and the concave sides of the several prominences of each tooth consist of a white opaque substance, exhibiting an appearance of fibres which are gradually lost in the superimposed substance, except in the concavities between the dental projections, where they extend to the surface.

The teeth of the Echimus esculentus are composed of transparent crystalline fibres, having a parallel arrangement, between which are lines and spaces: these, when viewed by transmitted light, appear dark and opaque. The central portion of each tooth consists of a transparent, dense, homogeneous substance, towards which the fibres of the parts situated external to it are

The enamel in the human subject and in the higher class of animals is almost entirely composed of transparent crystalline fibres, which are placed upon the surface of the tooth in a direction vertical to its length, on the cutting edge of an incisor, or on the prominences of a molar; in every other part they form an angle more or less acute with the surface superior to the point from which they arise. Their direction is not straight; indeed, to find them so is the exception rather than the rule. They take a waved course, sometimes forming considerable flexures, while at other times the curve may be but single and slight. These fibres, when seen cut transversely, have the appearance of somewhat irregular six-sided figures *.

As has been before mentioned, few of the tubuli in the more highly developed teeth are continued into the enamel, except in very recently formed teeth, in which many are traceable into that structure.

In this circumstance we see that the teeth of the higher resemble in a very marked manner the fully formed dental organs of the lower animals. Several instances have been given in which the tubuli have constituted a considerable portion of the enamel. I may here add, that in some cases such a perfect admixture of the two substances takes place, that it is quite impossible to point out the precise spot where one commences and the other ends. In the simple tooth the enamel reaches only to the neck; below it another structure commences, forming an investment to the tubular.

This layer consists of granular matter imbedded in a transparent medium, similar to, and but a continuation of, the transparent substance which connects the tubuli. The granules are of the same nature as the opaque matter contained in the tubuli, and as that which is external to them, in those teeth which have a laminated appearance, and is, as in them, removed by acids.

The granules themselves are irregular in size and shape, the largest being very similar to the corpuscles of bone deprived of some of their fibres. The human tooth shews this structure remarkably well: here we see collected and arranged separately those parts which in some other teeth are mixed up with each other.

In compound teeth, where enamel is continued down to the base, this layer is excluded *. So far as I know, this structure has not been before noticed; neither am I aware that the laminated appearance of certain teeth has been explained.

External to the granular there is another substance entering into the formation of a simple tooth, which also commences where the enamel terminates. Immediately below the last-named part this layer is very thin and transparent, containing only a few dark fibres which pass directly outwards. As we proceed further down towards the fang, this layer becomes thicker, and contains corpuscules like those of bone. Proceeding still further, till we approach the apex of the fang, we find this substance much thicker, containing more corpuscles, and traversed by vessels.

It sometimes happens that the several fangs of a tooth are united into one mass; in such a case the union is effected by the substance under consideration, and when it is reflected in between two fangs, and becomes of considerable thickness, there is commonly present in its centre a regularly formed Havernan canal. It is by this bony structure that the orifice of entrance to the central cavity is narrowed, at which part of the tooth it is generally more or less accumulated. The existence of this structure in greater abundance about the fang accounts, in a most satisfactory manner, for the fact observed by our illustrious countryman, Hunter, that the vitality of the fang is greater than that of the body of the tooth; nor is it less capable of explaining the occasional prolonged life of transplanted teeth.

Purkinje states that both external and internal to the tubular structure of the fang there exists a layer containing corpuscules †. Occasionally the bony layer is reflected up into the cavity of the fang, but to no considerable dis-

directed. From the central portion possessing greater density than the exterior, the teeth are ever-pointed. The cohesion between the newly formed fibres at the base of the tooth is so slight that they are easily separable, and appear as elongated crystals, resembling the enamel fibres of the teeth of mammalia.

* I have not seen the transverse markings of the fibres of the enamel which are described by Prof. Retzius. A similar appearance may be produced by making a section of enamel in such a direction as to divide the fibres obliquely.

* Though this is the case in the great majority of instances, yet there are exceptions, as in the teeth of the porpoise.

† Dr. Baly's translation of Müller's Physiology.

tance. It must have been this which Purkinje saw, and which he considered, from one or two examples, to be a constant condition. Certain it is, however, that it is not very common. When it does exist, vessels pass from the external to the internal layer, through the intermediate structures. Of the several parts which have been treated of, all, save the enamel, are vascular, and I would not deny even to this all connexion with the circulating fluids.

The vessels of the tubular part arise from those contained in the pulp cavity, and have somewhat of a regular distribution, commencing one above the other, in a line vertical to the length of the tooth, and proceeding upwards and outwards.

My attention was first drawn to this fact by observing, in a section of a rabbit's tooth, red points, and upon closer examination I found these to be vessels containing blood. I sought for similar appearances in other teeth, and experienced no difficulty in discovering that most teeth have vessels; they are, however, much more apparent in some than in others. I also found that there was some difference in the arrangement of the vessels in different teeth, as well as that all the vessels do not observe the same definite order, but are scattered out of the line described*. The vessels of the bony layer are much more irregular as to distribution; indeed they observe very little order, except that at the upper part of the fang, and in other situations also, a few canals are seen proceeding directly inwards, till they reach the granular substance, beyond which I have not been able to trace them. Now in these canals I have not seen blood; but unless they are for the conveyance of vessels, I know not what their use can be. To me it seems probable that such is their office, and that they have connexions with the vessels of the tubular portion. This, however, I cannot prove. I have preparations shewing the vessels advancing from the tubular into the granular structure, and on the other hand those of the long substance passing into the subjacent structure, but none demonstrating the direct continuation of the one with the other, except in those cases in which there is an osseous layer, both external and internal, to the tubular portion of the fang.

External to, and in close connexion with, the enamel in compound teeth, is a substance very like the bony layer of a simple tooth, yet it has its points of difference; it is the crusta petrosa. Haller considers this to be a deposition from the saliva. I need not say that he is wrong, since it not only invests the whole of the tooth, but is found before it pierces the gum, and that his comparison between the cementum and the tartar of the human teeth does not hold good. Moreover, this substance contains in it many corpuscules, and is traversed by numerous vessels, which proceed from without, and, when they come near the enamel, anastomose with each other, change their course, and then terminate. This is very beautifully seen in the fossil tooth of the megatherion. The corpuscules of the crusta petrosa differ from those of bone in being more branched, and in the branches being more irregular in their direction. Some corpuscules, indeed, are constituted of a mass of fibres so as to resemble a bundle of mos

In bone we see the radiating fibres proceeding towards a canal containing a vessel;—thus forming the radiating lines of the Haversian canals, which it has been incorrectly stated extend through but one lamina of the many which surround each canal. Again, the corpuscules of the crusta petrosa are much more numerous, and more irregularly distributed, than are those of bone; but on the other hand the anastomoses are more numerous, and, although the fibres emanating from the corpuscules do not proceed with such regularity to vascular canals, yet many of them do, so that the connexion is kept up. Generally speaking they are most numerous about the vessels, but in these situations they are irregular, since, in the same section, one part will be rendered quite opaque, while the adjoining portion will preserve a tolerable degree of transparency. However, after all the differences have been considered, the analogies between bone and crusta petrosa and the bony layer of the simple tooth are very great, the last seeming to

* In the tooth of the kangaroo, the vascular canals arising from the central cavity are very numerous, and possess this peculiarity, that each is invested by a layer of osseous matter, which is continuous with that surrounding the fang. Some of the canals seem almost obliterated by this osseous substance. The branches of the tubuli not unfrequently connect themselves with the corpuscules of the osseous layer of the vascular canals.

form an intermediate link between the other two*.

Recently formed crusta petrosa is so full of large canals that it is rendered quite cellular. In this condition, which is similar to that of newly-formed bone, we may frequently observe a partially developed corpuscule, the fully-formed part with its radiating fibres being directed from the vessel. I have also seen the same appearance presented in partially ossified thyreoid cartilage. With a knowledge of these facts, it will, I think, be difficult to suppose, that crusta petrosa, and probably bone, are developed in any other manner than from the vessels, and especially as it is seen that the increase in density is proportioned to the decrease in the size of the canals. This supposition accounts for the concentric laminæ of the Haversian canals, but not for their inconstancy in crusta petrosa; yet in this instance there is generally one lamina very distinctly surrounding each canal, and frequently some appearance of others, though much more feebly marked.

The external layer of the elephant's tusk presents a variety. In this we see fibres resembling in appearance the filled tubuli mixed up with the crusta petrosa, without the interposition of enamel, unless a transparent line separating the tubular from the external structure be considered as such. In the tooth of the dugong, however, this is absent, so that the crusta petrosa has no necessary connexion with enamel.

There is no difficulty in determining by what membrane the substance under consideration is formed. At the time the enamel is forming, the adhesion between the tooth and the sac is very slight, and seems to be through the interposition of a mucous fluid. When the development of the crusta petrosa has commenced, the membrane of the sac loses some of its vascularity, becomes less pulpy, and, when the formation is completed, it assumes the appearance of a dense fibrous membrane, separable from the tooth only by maceration, or the edge of a sharp knife. This very intimate adhesion, I conceive, is brought about by the vascular connexions between the membrane and the crusta petrosa.

Having considered the various structures which present themselves in the examination of a tooth, it will be highly interesting to consider their relation to each other and to bone. The tubes have in all cases immediate connexions with a canal for one or more blood-vessels. This is beautifully borne out in that substance, which Mr. Hunter observed to be formed in the central cavity of the human tooth, in those persons who, from the continued mastication of hard substances, have worn down the surface of the tooth. This substance is transparent, and is traversed by canals, around which radiate tubuli, similar to those of the previously-formed tooth, except in being less numerous and more curved in their course*.

To prove that the various structures forming teeth (excepting the enamel) are very analogous to each other, it seems necessary to find them all combined and mixed, without any regard to order, into one mass. This we have in the base of the tooth of the sperm whale, a thin section of which shews in one part of the field corpuscules, with a canal surrounded by concentric lamina; at another part, tubuli; and at a third, granular matter. In this the granules are accumulated in lines, which give a very distinct laminated appearance. I found the same condition in a mass taken from the tooth socket of a sperm whale. If further proofs were wanted to shew the intimate relation existing between the tubuli and bone corpuscles, we have them in those which have been described to enlarge in their lateral dimensions, and send off fibres in every direction, to communicate with others situated near them. It becomes a question of great interest as to what may be the function of the tubuli, and what that of the corpuscules. I think it will be acknowledged that their offices are not very dissimilar. At present, perhaps, it would not be possible to give any very satisfactory answer to this important question; yet it is not difficult to suppose, judging from their constant connexion with canals for vessels, and with each other, that they perform some office important to

* In some examples, the crusta petrosa cannot be distinguished structurally from bone, while in others its corpuscles assume great variety in shape and size.

* The substance spoken of is not invariably traversed by vessels. In incisors it is exactly fitted to the parietes of the pulp cavity, and often inseparably united to the previously formed dental matter, so as to constitute part of the tooth, preserving in its centre a small cavity for the pulp. The disposition of the tubuli is radiate.

the vitality of the mass of which they constitute a part. I can easily conceive that tubes, containing as they do an amorphous substance, could by capillary absorption carry on a kind of slow circulation of the more fluid parts of the blood. If such be the case, the use of the tubuli and bone corpuscules, with their peculiar connexion, would become apparent. I have used the terms fibre and tubuli synonymously. I wish them to be understood as signifying the same; the former having been employed for the sake of convenience, and particularly where the tubuli have been very small, and visible by their contents only.

Here I leave the subject, but not I hope without having proved, that the relations between dental and osseous structure are very intimate, and that the vitality of the two differ only in degree.

I cannot conclude without acknowledging that I am entirely indebted to the great kindness of Professor Bell and Mr. Owen, for the opportunities afforded me of examining the teeth of the less common animals.

King's College, May 31st, 1838.

HEALING BY THE "MODELLING PROCESS."

To the Editor of the Medical Gazette.

Sir,

Should you think the following case of sufficient interest, you will oblige me by inserting it in the Medical Gazette.

I am, sir,
Your obedient servant,
E. Copeman.

Cottishale, Feb. 5, 1839.

On the 5th Dec. last I was sent for to visit J. C., a middle-aged man, with a ruddy complexion and no small degree of corpulency. On returning from a visit to a neighbour the evening before, somewhat intoxicated, he fell out of his pony-cart upon his head, suffering a contused wound of the scalp in the situation of the most prominent part of the forehead, and a compound fracture of the ossa nasi; the wound upon the nose extending lengthwise about an inch. The integuments of the face were a good deal bruised, and the upper wound was quite filled with dirt and small portions of gravel, which made me fear, in such a subject, the occurrence of inflammation of an erysipelatous nature. The wound in the forehead was nearly as large as a half-crown, and the edges so jagged that they could not be brought over so as to close the opening; the bone not bare. After removing several loose portions of bone from the nose, and cleansing the wounds, I put them in as good a position as I could, and applied lint dipped in warm water and covered with oiled silk. He had no headache, but there was a slight degree of fever, which seemed to be the effect of his recent potations, rather than the result of the fall. I did not therefore bleed him, but gave him calomel and rhubarb, and saline mixture, to act freely upon the bowels. Low diet. The following day I found him more free from fever. Pulse 86. Bowels well relieved; had passed a quiet night; but in consequence of a slight headache, I took about 12 oz. of blood from the arm, and directed the saline mixture to be continued; wounds free from inflammation. Closed the nasal wound more perfectly by means of two strips of adhesive plaster.

Dec. 8th.—Quite free from pain or fever; bowels open; no inflammation or discharge from the wounds. Cont. Mist.

12th.—Upper wound contracting, and the loose edges becoming attached to the subjacent parts. No suppuration nor granulations. Slight discharge of matter from the nasal wound, to which I now applied but one strap, continuing the wet lint to both.

16th.—Wound of the forehead to one-third its original size, without granulating. Upper and lower ends of the nasal wound healing in the same way, and the middle discharging less than at last visit.

21st.—Both wounds quite healed, 16 days from the receipt of the injury. The middle of the nasal wound healed by granulation; but the scalp wound in the forehead healed by a gradual extension and approximation of its edges, without inflammation, suppuration, or granulation, (although the parts had been much bruised by the fall), and no new skin seems to have been formed. The only dressing employed for the upper wound was wetted lint covered with oiled silk, to prevent evaporation; and I consider this case a good specimen of healing by the "modelling process," described by Dr. Macartney, in his recent work on Inflammation. At a large Provincial Hospital, I observed that contused scalp wounds were mostly disposed to inflame and sup-

purate, and difficult to keep clean when dressed with adhesive plaster, &c. in the usual manner. Should the plan recommended by Dr. Macartney prove generally as successful as it did in this instance, it would deserve to be preferred to any other mode of dressing, from its extreme neatness and facility of application; to say nothing of the freedom from inflammation, and quick recovery which it appears to produce.

IS DEAD BONE EVER ABSORBED?

To the Editor of the Medical Gazette.

Sir,

I beg to offer a continuation of the observations which I commenced in your journal of the 15th of December. In those observations I alluded to the opinion of Mr. Gulliver, "that his experiments (the results of which tend to prove that dead bone is not absorbed) have not been sufficiently varied and extensive to admit of being adduced as a peremptory proof of the impossibility of the absorption of bone, in opposition to the incontestible power of the absorbents in the removal of inorganic particles from the living body." In my communication I asked for a single proof of this incontestible power of the absorbents. I am told by "Philiatrus," who favours me with a reply, "that water is easily absorbed, so is the colouring matter of madder, turmeric, and other substances." I grant that water and the colouring matter of madder in solution may be absorbed; I grant also that an alkaline solution of lead, and that a solution of nitrate of silver may be absorbed; but I cannot grant that their absorption are instances of the removal of inorganic particles from the living body. Moreover, my remarks having reference to the absorption of a solid, viz. of dead bone, the word particle, as used by me, could only apply to a solid body; and not one of the instances, even as adduced by "Philiatrus," is one of the absorption of solids; for the latter will find that he misquotes Hodgkin's translation of Edwards, when he says that "lead was given internally or externally"; the words are, "in five of these experiments, in which an alkaline solution of lead was either given internally or applied externally, lead was detected in the chyle." Any one will perceive therefore that the instances quoted by Philiatrus are not even those of the absorption of particles, *i. e.* of solids, much less are they instances (which I asked for) of the removal of inorganic particles from the living body.

The difference in the views of Mr. Gulliver and myself may be stated in a few words. It appears that the former has proved that dead bone—a lifeless solid mass—cannot be removed from the body by the action of the absorbents. Mr. G. believes that in proving this he has discovered an exception to the rule, that inorganic bodies are absorbed; I believe that he has merely pointed out an example of the general rule (and to which I am acquainted with no exception), that inorganic bodies are never absorbed.

I purpose elsewhere to enter more minutely into the details of this most interesting subject, and shall confine myself here to the brief examination of two questions:—

The first one is, whether dead bone is ever absorbed.

The second one is, whether any solid substance, belonging to the mineral, vegetable, or animal kingdom, and not possessing life, can be removed from the living body by the action of the absorbents.

Firstly, as to whether dead bone is ever absorbed. Hunter, as I have before stated, says, "Now the part that is to be absorbed is alive; it must feel its own influence, and admit of absorption: the vessels must have the stimulus of imperfection, as if they were sensible that this part were unfit. There must be a sensation in both parts." * The opinion expressed in the above quotation is certainly not reconcilable with the view of the absorption of dead bone, and is rather in opposition to the following statement:—"I by no means wish to be understood that no absorption of the dead piece (of bone) can take place; for on the contrary, I believe that nature sometimes finds it necessary to the completion of her process." "This absorption of the dead bone takes place at the fangs of the shedding teeth†."

I do not think that Hunter ought to be adduced as an authority in favour of the absorption of the dead bone, when

* Hunter's Works, by Palmer, vol. i. p. 255.
† Loc. cit. vol. i. p. 527.

we bear in mind the general principle which I have quoted from him above; and when we find that he brings forward no authenticated case in support of his simple assertion that "he believes that nature sometimes finds it necessary," &c.; and, lastly, when we know that the only instance mentioned by him, as one of absorption of dead bone, viz. of the fangs of the teeth, is most undoubtedly one of the absorption of a living structure. The teeth when living can be and are absorbed, but the teeth when dead are not absorbed. In verification of the latter remark, I may allude to the exceedingly interesting and instructive experiments of Hunter, upon the transplanting of teeth. The results of the latter appear to be that a dead tooth may cause abscess, inflammation, &c., but its fangs are not absorbed: whereas, to quote Hunter's words, "the living teeth have a very singular operation performed upon them whilst in the socket; the living socket and gums set about another mode of getting rid of them, by eating away the fang, till the whole is destroyed, exactly similar to the wasting of the fangs of the young subject." I may here state, in passing, that I believe that the fangs of the deciduous or transplanted teeth, in common with all living structures, are not absorbed by the vessels which surround them, but by those which they contain.

I listened with attention to the lectures delivered at the college by Mr. Stanley: I have since read abstracts from those lectures in the Medical Gazette, and I confess that I have not found therein related any argument or fact capable or likely to induce an inquirer upon this subject to believe that dead bone is ever absorbed. Mr. Stanley says, "these proofs are sufficient to establish the fact, that dead bone may be absorbed, whilst retaining its connexion with the living, as firmly as any one of the best ascertained facts in pathology; but when the dead bone is completely exfoliated, can the absorbents of the surrounding parts act upon it.? It has been repeatedly investigated by experiment, and hitherto it must be admitted with negative results, and the evidence of the possibility of absorption does certainly as yet fail of absolute proof *." Although agreeing that there are not facts to guarantee the position that the absorbents can take up an isolated dead solid, still Mr. Stanley believes that these absorbents can take up this dead solid when not isolated. The following cases are quoted by Mr. S. as instances of the latter. "A portion of tibia has perished from violence or other cause; the skin covering it is destroyed; it is exposed to the atmosphere, and becomes of a dark brown colour. As it is watched from day to day, granulations are seen rising from the surrounding parts, extending a little over and in close contact with the dead bone. If a little bundle of them be lifted up, they are seen actually imbedded in excavations of the dead bone (?), which not having been present before the granulations grew over the dead bone, can only be referred to their power of absorption." A gentleman had a large portion of the walls of the tibia perish from syphilitic disease. The dead bone (?) exposed became dark brown, and had undoubtedly perished (?). One day a point of florid granulations was seen on the surface of the dead bone in its very centre, and unconnected with the surrounding soft parts: on touching this with a probe it was found to pass readily into a minute canal, extending completely through the wall to the medullary cavity. The granulations arising from the medullary membrane had in fact penetrated the walls, which they had gradually absorbed."

Mr. S. also speaks of the absorption of the dead ring of bone after amputation. In answer to Mr. Stanley, I need only ask him for the evidence that the bone is dead in any one of the three cases which he has cited. Does he imagine that a bone must be dead, because its colour is somewhat changed (?); and is he ready to argue, that dead bone is sometimes absorbed because bone which has obtained by exposure to the air, &c., a darker hue than natural has been observed by him to be removed by absorption (?); and, lastly, supposing that the ring of bone at the amputated extremity of the femur does die, what evidence has Mr. Stanley that that ring of bone is absorbed?

Upon carefully examining the evidence adduced in favour of the absorption of dead bone, I am induced to believe that there are very few surgeons or physiologists who will not reject the idea that dead bone is capable of being absorbed.

I will now proceed to the examination

* Medical Gazette, vol. xx. p. 409.

of the second question—Whether any solid substance belonging to the mineral, vegetable, or animal kingdom, can be removed from the living body by absorption. Independent of the numerous instances in which metals have been found intact after having remained in the interior of the living body many years, the results of the numerous experiments of Levert and Physick in America, with metallic ligatures, tend to prove that metals are never absorbed. The results of accidents recorded in treatises upon surgery, and the experimental investigations of Pecot, are against a belief in the absorption of vegetable substances; and in proof of the incapability of the absorbents to remove animal solids when dead, may be quoted many celebrated authorities.

In allusion to the very fine ligature invented by Mr. Lawrence, Mr. Guthrie says, "when the knots have come off the ends of the arteries they have caused small abscesses to be formed, which present at the nearest external surface, and are discharged with little uneasiness*." M. Roux says, "No ill consequence arose from the presence of the bits of thread under the cicatrix†." Mr Fielding, of Hull, says, "the knots of silk were not absorbed, and were ultimately thrown off unchanged after several weeks or months." Dr. Reese says, that it is the opinion of the American surgeons that these fine ligatures are not absorbed, and that they ought to be used only where their escape is easy. Even Mr. Lawrence says, "he knows nothing of their ultimate fate‡."

I might here adduce the names of many others who bear testimony to the unabsorbable nature of animal ligatures, but will conclude these remarks by introducing the opinion of one individual in favour of a ligature which is capable of being absorbed. That individual is Professor Physick: he states that he has invented a ligature made of chamois leather: the advantage proposed by it is, that being made of animal matter it will, having performed its duty, be speedily removed by the absorbents. In speaking of these ligatures, Dr. Jamieson says, he had never after an operation seen any of them; the vessel will be surrounded by an abundance of lymph, and the ligature dissolved. However, as neither Professor Physick nor Dr. Jamieson adduce a single instance in which the ligature has been or absorbed, I anticipate that their surmises will have but little weight in opposition to the numerous authenticated facts which I have above quoted, all of which tend to lead to conclusions opposite to theirs. Although I consider that the instances of the non-absorption of animal substances which I have brought forward are alone quite capable of supporting my views, I will briefly refer to an experiment performed by myself. It consisted in introducing a slip of dried bladder between the cartilage and integuments of the ear of a rabbit: this operation was performed months ago, and although the foreign body has been "surrounded by an abundance of lymph," it remains undissolved, and consequently unabsorbed.

In conclusion I beg to state that the thanks of the surgeon and physiologist are due to Mr. Gulliver, for the very interesting results which his investigations have enabled him to arrive at; and as an unbeliever in the power of the absorbents in the removal of inorganic particles from the living body, and a believer in the general rule that inorganic bodies are not capable of absorption, I feel much indebted to Mr. G. for having removed what always appeared to me to be an exception to that rule, viz. the fact of the absorption of dead bone.

PATHOLOGICUS.

January 30, 1839.

* On Gun-shot Wounds of the Extremities.
† Relation d'un Voyage, &c.
‡ Medico-Chirugical Transactions, p. 160. of vol. vi.

MEDICAL GAZETTE.

Saturday, February 16, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

MEDICAL RELIEF OF THE POOR.

OUR readers will recollect, that in our last volume we gave several articles on this subject, by way of commentary on the evidence adduced before the Committee appointed by the House of Commons to inquire into the working of the New

Poor Law, with reference to medical relief*.

The profession has now had many months for deliberation, and the period for action appears to have arrived. If our country surgeons do not desire to be ever rewarded with infinitesimal salaries and Somerset-House insults, for their toilsome attendance on the poor, now is the time to be stirring.

Two proposals, indeed, have been made; the first is to bring a bill into parliament, embodying some of the chief suggestions made to the Committee by the medical witnesses; the other is to wait patiently, with the romantic hope that the voice of justice will be heard at head-quarters, and that the Poor-Law Commissioners will adopt important improvements, even though they should add twopence to the burdens of every rate-payer throughout England.

We side, of course, with the first proposal, and are glad to hear, from the most authentic source, that the Provincial Medical and Surgical Association are also in favour of active measures, and do not intend to conquer, like Fabius, by delay.

We are consequently gratified to find that a letter was addressed, a couple of months ago, by a distinguished member of the Association, to a lawyer equally remarkable for his philanthropy and his talents, requesting him to introduce the subject in parliament. Our professional brother observes, that on the whole we have great reason to be satisfied with the result of the medical examinations, and with the tone of the Committee's Report; as the chief abuses complained of are distinctly admitted to exist. Nevertheless, the Committee wish to leave the matter in the hands of the Poor-Law Commissioners, instead of transferring the administration of medical relief to medical assessors. "The mischief of the present system is acknowledged, *but the machinery which causes the mischief is to remain in operation.*" The Committee go so far as to hope that the gentlemen who administer the poor-law will do better for the future. Just think of that, gentle reader! We have all heard of Pandora's box, where Hope lay snugly ensconced, after every crime and misery had issued from it; nay, the poets tell of captives who dance to the music of their chains, under the spell of Hope; and these things are not wholly incredible; but to hope for humanity from the inventors and improvers of "the test of destitution"—from the slow tormentors of infancy and age—transcends all conceivable faith.

The writer of the letter to the learned serjeant thinks that the Commissioners will not be more competent in future than they have been hitherto, to manage affairs which they do not understand. We are rather inclined to believe that the incompetency consists in a wilful blindness to every thing but the difference between five shillings and half-a-crown. Talk to Harpax of the capital Welsh mutton you saw hanging in Bond Street the other day, and he will continue to cast up interest sums in the air with his finger, unable to comprehend so complicated a fact: but tell him of some rank meat that taints the atmosphere of St. Giles's, to be sold a great bargain, and his ears return; you are an honest fellow, he says—not one of the profligates of the age, but a man who knows how to live, and will not encourage grasping butchers. This is just the case of the Commissioners: tell them that nominal salaries will only procure nominal services, and that they are hiring persons at forty pounds a year to neglect the poor, and they will answer with a sneer that medical men best know their own interests, and that if forty pounds a year seem too little,

* Med. Gaz. vol. xxii. pp. 905, 986, & 1017.

they will bring down some unfortunates from London who will slave through the work for thirty. Every man of sense, quoth Harpax, must prefer Sun Alley mutton at five-pence per pound, to Bond Street ditto at nine-pence; every friend to the poor, the Commissioners would cry, must prefer the practitioner who sends in the lowest tender, to the covetous doctor who pants for sixty pounds per annum.

The eminent barrister to whom the communication was addressed returned a favourable answer, and soon afterwards the following heads of a bill were submitted by the medical to the legal philanthropist:—

"1. A medical commissioner to be appointed by the Crown. He shall be a member of one of the recognized medical colleges or corporations, and have practised medicine or surgery for not less than five years. His duties to direct the affairs of the medical department of the poor laws, under the authority of the Central Board—to issue general regulations for the appointment, remuneration, and duties of Union medical officers—to receive the medical returns from each Union (quarterly)—to make a report thereon annually, which shall be appended to the annual report of the Poor-law Commissioners—and to decide in all disputed questions relating to the duties or pay of medical officers, as shall be referred to him, in the manner hereinafter mentioned.

2. All the legally qualified medical practitioners resident in each Union may annually elect a medical guardian, or assessor, who shall, in conjunction with another assessor to be appointed for the like purpose by the Board of Guardians, and in conformity with such general regulations as may be issued by the medical commissioner, determine the number and the boundaries of the medical districts in the Union, also the amount or rate of payment to medical officers for each district. Such guardian or assessor likewise to sit at the Board of Guardians, and vote in all questions relating to the conduct of the medical officers, or the diseases of the paupers generally, or the dietary, and other sanatory regulations of workhouses; to collect and forward to the medical commissioner the returns of the medical officers (quarterly), together with such other particulars as he may be required to furnish by the medical commissioner; to obey the directions of the said medical commissioner, and transmit them to the several medical officers.

3. In case the two assessors cannot agree on either of the points before mentioned, it should be referred to the medical commissioner, whose decision should be final.

4. No medical officer to be dismissed for alleged neglect of duty or misconduct, except by the medical commissioner; this not to prevent temporary suspension by the Guardians, until the case has been investigated by the medical commissioner.

5. If the medical men resident in any Union neglect to choose a medical guardian or assessor, the Board of Guardians to determine all such points as would have been brought before the two assessors, subject to such general regulations as may be issued by the medical commissioner."

Even if the bill should not pass into a law, much good must result from the discussion to which it will give rise; it is even asserted by the sanguine, that Assistant-Commissioners might be scared or shamed into concessions. It is said that one of these persons who had been present at the parliamentary inquiry, lately advised a Board of Guardians to appoint a medical sub-committee, including two resident practitioners, (who were guardians), "because," said he, "the opinions and

wishes of the profession ought to be consulted in your medical arrangements." Can these things be? Must we in part retract what we said above, and can Assistant-Commissioners learn how to pardon?

There is, however, a technical difficulty which stands strongly in the way even of the introduction of the bill, far more of the passing of the Act; for as it proposes to create a new office, with a salary charged on the consolidated fund, the consent of the Crown is, properly speaking, necessary before its introduction. Even supposing this to be overlooked at first, the bill may be stopped at any stage by any member who chooses to raise the objection, and could not at any rate pass the Commons without the Royal assent having been formally given.

Moreover, the learned serjeant thinks the attempt should be postponed, until it is seen whether the Commissioners will spontaneously adopt the recommendations of the committee. Our medical brethren prefer urging the needful reforms immediately; for they see that no substantial amendment has yet been made in the system, and that the boards still advertise for tenders. A judicious practitioner observes, "the very announcement of such demands may create us *some* friends, and can scarcely produce us *more* enemies than we have already."

The fact is, that the skin-flints are in the field already, trembling with the apprehension of salaries and drug-bills; while the friends of mankind need only to hear the demands of the medical practitioners stated in plain terms, to become their firmest allies.

Whether the bill be brought into the House or not, we recommend the medical profession to pour in their petitions, briefly stating the evils under which they labour, and the futility of expecting a remedy from the Commissioners or Boards of Guardians.

The advocate of humanity whom we have so often mentioned, will probably be assisted in his endeavours by an active medical M. P. What if it were a zealous opponent of ours? We should say to him: *O! si sic omnia!*

MISDEMEANOUR IN A MAD-HOUSE.

In our number for October 27th, (p. 165 of the present volume), we gave the particulars of a strange outrage said to have been committed in a lunatic asylum near Southampton. It was alleged that the asylum at Grove Place, to which parish paupers were sent, was entrusted to the mismanagement of two female keepers, Charlotte Rose and Caroline Sellens, who were in the habit of inflicting severe corporal chastisement on a lunatic, named Mrs. Strong; and that her death had been hastened by their treatment. The verdict of the coroner's jury affirmed that Mrs. Strong's death had been accelerated by the keepers; and about three months afterwards, Charlotte Rose was tried for the offence at the Hants county sessions. The evidence resembled that which had been given on the coroner's inquest, with the recurrence of the difficulty of admitting the testimony of a supposed lunatic. Mrs. Willis, the chief witness against the keepers, was herself confined in the asylum during the commission of the assaults upon the deceased, and it was therefore necessary to prove her sanity. Five witnesses deposed in favour of her competency to give evidence, but it was contended by the counsel for the defendant, that they were insufficient, as none of them testified to the sanity of Mrs. Willis at the period that she saw the assaults. On the other hand, Mr. Thomas Simpson, the resident surgeon, at Grove Place, deposed that Mrs. Willis was a lunatic without lucid intervals, though, on cross-examination, he allowed that she was entrusted with the key of the outer door. "She called upon him at his brother's to ask for papers, which he gave, although he did not know whether she was not insane without lucid intervals."

The report of this trial is imperfect, for after giving the testimony of another witness on the value of Mrs. Willis's evidence, it does not mention

the opinion of the Court on this important point, but merely informs us that the jury, after consulting for some time, returned a verdict of guilty of a common assault. The sentence was, a fine of 5*l.*, and imprisonment until it is paid. Sellens (called in this report *Sillence)* is not to be tried till the next sessions. We are indebted for this account to the Times, of Jan. 7th, 1839, which has borrowed it from a Hampshire paper.

The sentence seems strangely lenient, if Charlotte Rose was really guilty of the violent assaults imputed to her. Perhaps the Court thought that the jury had convicted upon evidence not legally admissible, and therefore gave the defendant the benefit of the technical objection in her favour; or it is even possible that they may have considered her really innocent, and were therefore satisfied with inflicting a nominal punishment. Every body must confess that the sentence is not one which could have been expected, and every reasonable man must wish to see it explained.

CORONERSHIP FOR MIDDLESEX.

The polling for a Coroner to succeed Mr. Stirling commenced on Thursday; and last night—being at the close of the second day—the numbers stood as follows:—

Mr. Wakley	1413
Mr. Adey	310
Majority for Mr. Wakley..	1103

From this there would appear to be little doubt of the result; and if it prove as we anticipate, we cannot but regard the event as one of considerable importance to our profession. We trust that the example of electing medical men, if set by the metropolis, will be followed in other parts of the kingdom.

SMALL-POX AND VACCINATION HOSPITAL, ST. PANCRAS.

REPORT OF THE PHYSICIAN

Presented to the Annual General Court of Governors, held at the Hospital, on Friday, February 1, 1839.

The interest now so widely felt in all matters relating to small-pox and vaccination, renders it at this time more than ever necessary that the proceedings of your institution, devoted as it is to the relief of the one and the encouragement of the other, should be brought under your notice.

712 patients were received into the Small-pox Hospital in 1838, of whom 416 were males, and 296 females. Eighteen were labouring under diseases not variolous, 694 had small-pox in some of its various forms or modifications, many very mildly, but the greater number in a high degree of intensity, rendering the seclusion of an hospital as necessary for the comfort of the individual, as for the security of the community. The number of small-pox cases admitted in 1838 exceeds the largest number ever received since the foundation of the hospital in 1746; besides which, more than 100 persons with small-pox were refused admission for want of accommodation. In 1781, a year of very extensive and fatal small-pox, 646 patients were treated in the building in Cold-Bath-Fields; and of them 257 died, being at the rate of 40 out of every 100. In 1838, out of 694 cases, the deaths were 188, being at the rate of only 27 in the 100. This saving of 13 lives out of every 100, or 90 in the whole, may be attributed, in part, to the improved accommodations in the present building, imperfect as it is—partly to improved modes of practice, but chiefly to the influence of vaccination, which, where it fails to prevent small-pox, so modifies and alters the human constitution as to permit the small-pox to run its course with a mildness and safety unknown in 1781.

The number of persons who last year, in this hospital, passed through small-pox at variable periods, after reputed vaccination, was 298, more than two-fifths of the total admissions. Of them, 114 took the disease in that mild and safe form called, from its close resemblance to the chicken-pox, the varicelloid; 66 had the disease severe at first, but shortened and modified in its subsequent stages, while 118 (or 40 per cent.) underwent the disease in a regular, normal, or unmitigated form; and in them the rate of mortality was nearly the same as in those who had never been subjected to vaccination. The deaths in this class amounted to 31, but from them some deductions must in fairness be made, for, in the spring of the year, from the crowded state of the wards, fever of a very malignant character pervaded the hospital, affecting indiscriminately those who had, and those who had not, been vaccinated. To that cause, and to superadded erysipelas, the deaths of 8 or 10 among the vaccinated may be attributed, leaving the total mortality by small-pox after vaccination, 21 out of 298, or 7 per cent.

The following table, shewing the ages

of the patients admitted during the last year, distinguishing the vaccinated from the unvaccinated, affords some interesting results:—

Table, shewing the Ages of the Patients admitted into the Small-Pox Hospital in 1838, with the Mortality among the same, distinguishing the Vaccinated from the Unvaccinated.

AGES.	UNVACCINATED.		VACCINATED.	
	Admitted.	Died.	Admitted.	Died.
Under 5 years of age	42	20	0	0
From 5 to 9 inclusive	37	11	5	0
„ 10 to 14 „	30	8	25	0
„ 15 to 19 „	104	32	90	6
„ 20 to 24 „	115	50	106	16
„ 25 to 30 „	45	23	55	8
„ 31 to 35 „	12	7	13	1
Above 35 years of age	11	6	4	0
Total	396	157	298	31 *

From this table it appears that, in the early periods of life, the preventive powers of vaccination are almost complete; 5 vaccinated children only, under the age of 10, having been received; while of the unvaccinated, within the same ages, the number admitted was 79, of whom 31 died. At 10 years of age the receptivity of the small-pox in the vaccinated may be said to commence, but the disorder then shews itself only in its mildest form. From 15 to 25 years of age the disposition of the body to receive small-pox after vaccination increases, and the severity of the disease augments in a like ratio. The table indicates a decline in the number attacked by small-pox after the age of 25; but the diminution is equally great among the unprotected as among the vaccinated, and may, therefore, be owing to causes independent of vaccine agency.

A variety of tables, illustrating the same facts, have recently been published on the continent, and they all concur in shewing that the security which vaccination offers, perfect as it is in the early periods of life, undergoes a material diminution from the period of puberty to that of confirmed manhood.

This important principle, now, I think, clearly established, could not possibly have been known to Jenner and the early supporters of vaccination. Though it detracts in a certain degree from the high pretensions with which vaccination was introduced into public notice, it yet offers no reason whatever for neglecting vaccination, nor derogates from the merits of Jenner. Vaccination, shorn though it be of some of its attributes, and incapable as it is now proved to be of banishing small-pox from the earth, yet remains the greatest boon which medical science ever gave to mankind.

Two important questions arise out of the statements now made: first, how far the deterioration of vaccine security is owing to defective virus, imperfect modes of vaccination, or other causes under our control; and secondly, how far such deterioration, whether arising from imperfection in the agent itself, or in the mode of its application, admits of remedy by the process of revaccination.

With respect to the first of these questions I am disposed to say, that the diminution of vaccine energy, commencing as it does at a particular period of life, and gradually augmenting for a certain number of years, cannot really be owing to defective modes of operation, at least to the extent supposed by many; that it has its origin in certain progressive changes taking place in the human frame,—and, consequently, that there is no rational ground for believing that recurrence to the cow for fresh matter, a greater number of incisions, vaccinating at a later period of life than has hitherto been usual, or any other alteration in the present mode of conducting the process, will materially lessen the number of cases in which small-pox succeeds to vaccination. The defect, whatever be its amount, is in the agent itself, and not in the mode of its employment.

With reference to the second question, involving the propriety of re-vaccination, I would observe, that this practice is comparatively of recent date, and that the means of judging whether it really pos-

* Of these, 6 died of typhus, 3 of superadded erysipelas, 1 of chronic diarrhœa.—Total, 10.

sesses the power of renewing the security deteriorated by time are still very scanty. We need not wonder, therefore, at great differences of opinion existing on this subject. In Germany, the practice of re-vaccination is considered to be of unquestionable value. In France, on the other hand, it is viewed as a measure of trivial importance. Without prematurely venturing any decided opinion on the question, I should be disposed, until further experience has been acquired, bearing in mind the simplicity of the operation, to recommend re-vaccination as a precautionary measure; and I would further add, that the earliest age at which it can be practised with any prospect of real advantage is ten years, and that the period of life best adapted for it is from 15 to 20.

If the experience acquired at this hospital can thus be rendered useful to the public generally, it must still more strongly serve to direct the attention of the governors to the state of the building. Whoever reflects that forty years after the discovery of vaccination, in a country where every encouragement is held out, both by the government and the medical profession universally, to the practice of vaccination—in a town where the opportunities of efficient vaccination are immense, and small-pox inoculation unknown, the calls upon this hospital should have been greater than in any year since 1781, will at once acknowledge, that this institution is entitled to recover that share of public patronage which it once enjoyed, and that its accommodations should be adapted to the increased size of the metropolis, and the altered circumstances of the times. The necessity of withdrawing the mild and varicelloid case from all contamination with the aggravated forms of the disease, has long been felt, but was never so strikingly displayed as during the past year. This measure, of great, and I might even say indispensable necessity, cannot be effected without devoting the whole of the present building to the reception of small-pox cases This involves the necessity of a separate building for the purposes of vaccination, a plan which has often been recommended on other grounds, and which, I trust, the liberality of the public will enable the governors to carry into effect, without any serious drain upon the permanent resources of the charity.

The vaccination department of the institution has been in full activity during the past year. 4830 persons have been vaccinated at the hospital, a number exceeding by 690 the largest number ever vaccinated in one year at this institution. The excess may be attributed in some degree to the increasing desire of the public for re-vaccination. 1558 medical gentlemen have been provided with abundant supplies of vaccine lymph. The applications from the country have increased very considerably, and but for the heavy expense of postage would have been still more numerous. On the 29th of May I was summoned to give evidence before a Committee of the House of Commons, on the effects of the present rate of postage on the supply of vaccine lymph to the provinces, and on the machinery of vaccine supply generally. The evidence has since been published in the Second Report of the Select Committee of Postage.

I beg further to state, that the stock of lymph which began to be used in May 1837, is still kept up, and during the whole of 1838 has given every satisfaction both to your own medical officers, and to the numerous professional gentlemen who apply to this hospital for vaccine virus. We have received indeed from Bristol, Aylesbury, and the North of Scotland, supplies of matter recently taken from the cow, with which experiments have been made, but as none of them appear to exceed, or even to equal in intensity, the lymph now in use, it has not been thought advisable to make any alteration. Recurrence to the cow for fresh lymph is not a measure lightly to be had recourse to, nor should it be advised until the old and tried stock has obviously degenerated.

GEORGE GREGORY, M.D.

31, Weymouth Street,
Feb. 1st, 1839.

WESTMINSTER MEDICAL SOCIETY.

February 9, 1839.

FRED. HALE THOMSON, Esq. President.

Influence of Imagination on the Development of the Fœtus exerted at the period of Conception or afterwards.

MR. CANTON laid on the table, for the inspection of the members, a preparation of a monstrous fœtus. The parent was a patient of Mr. Skeggs, and went the full period of utero-gestation without evincing any remarkable symptoms. The labour was rather tedious, and a dose of ergot of rye was administered. A fine child was protruded, healthy and perfect in all respects. The placenta, however, was retained, and was ascertained, by laying the hand on the abdomen, to occupy a larger space than usual, but none of the inequalities were perceived, which are the usual signs of a second child being in the womb. A second dose of ergot was given, but

without effect, and the hand was introduced, and the placenta, with its accompaniments, was removed. On examination, another and an imperfect child was discovered, having its entire integuments infiltrated with a pellucid lymph. The parent did well, and the monstrous offspring was presented by Mr. Skeggs to Mr. Canton.

The child, or fragment of a child, was injected by Mr. Canton, and carefully examined. The anatomical anomalies were detailed by this gentleman to the Society, and the most interesting facts are the following:—The brain, and all the organs of the external senses, were absent, but the par vagum existed for a small portion of its ordinary course. Two membranous appendices were substituted for the pinna of both ears. The œsophagus terminated in a cul-de sac behind the sternum. The orifices of the inferior mucous canals were closed. There existed no stomach or liver. There was no heart, but a large vessel occupied the ordinary situation of the descending aorta, and terminated in two large branches above and two below, besides giving off numerous small lateral branches. This main trunk communicated with the funis. There existed no superior extremities, and the left lower limb was deficient from the pelvis. This monster had a distinct funis attached to a distinct placenta, smaller than the placenta of the perfect infant, and in juxtaposition with it. Mr. Canton could not state whether there was any anastomosis between the two placentæ, as they did not come into his possession. The woman had experienced no fright during her gestation, nor met with any occurrence which, with the fullest latitude of imagination, she considered as a cause of the deformity. The weight of the monster, at birth, was about 19 ounces.

Dr. James Johnson said he was gratified in more than one respect with the history of the case detailed by Mr. Canton, but principally because it refuted the notion of the imagination of the mother having any influence upon the growth of the embryo. If the woman had had a fright, or other mental disturbance, why should one of the children alone be affected? and if one instance of monstrosity was produced without the operation of the mother's fancy, why not a thousand? He had read a ridiculous story, told in the Lancet of last week, by a Mr. Bree, where it was gravely said, that a woman being insulted by a beggar whose head had sunk from age beneath his shoulders, predicted that the offspring which she then carried in her womb would become deformed. She went her full period of gestation, and was brought to bed of an acephalous monster. He (Dr. Johnson) wished this Mr. Bree could see the preparation before the Society, and he was sure it would cure him of his superstition.

Mr. Winslow was surprised that Dr. Johnson should throw ridicule on the idea that the state of the mother's mind had an influence upon the condition of the fœtus *in utero*. The principle was supported by high authority. Pinel stated that during the French revolution an extraordinary number of idiots and monsters were brought forth, and which he ascribed to the perturbed state of the parents' feelings. Dr. Rush also stated that during the insurrection of our North American colonies the same phenomena occurred.

Dr. A. T. Thomson fully concurred in the remarks made by Dr. Johnson. He did not think that, after conception, the mental affections of the mother could at all influence the condition of the embryo. It appeared, however, from good authority, that at the moment of conception the mother's imagination could, in some inexplicable way, modify the form of the child. It was known that a woman conceiving from the embraces of her husband whilst entertaining an illicit love for another man with whom it was impossible she could have had any carnal intercourse, the child assumed the likeness of the lover, instead of that of the husband. The idea that the imagination of the parent during coition had a power in determining the formation of the child was an old opinion. Galen had said that a father might procreate a boy or a girl at his option. The modification of the embryo at the moment of conception, however, was a very different thing from its modification afterwards. Both Pinel and Rush mentioned facts which interfered with the inference drawn by Mr. Winslow; for example, during the troublesome periods alluded to, hysteria was observed never to have appeared amongst the women.

Mr. Winslow saw nothing in what had fallen from Dr. Thomson that could alter his opinion; on the contrary, what he had stated tended to corroborate it. Dr. Thomson admitted the power of mind in modifying the fœtus at one time or other; and the suppression of the mild affection, hysteria, only proved the existence of an excited state of mind, and the influence of intenser feelings.

Mr. Bushell, recurring to the preparation on the table, expressed a different opinion from Mr. Canton, as to the character of the blood-vessels injected by him. Judging from the situation of the vessels, they were veins and not arteries. It was a fact well known, that wherever monsters without hearts were found, there always coexisted a perfect fœtus in the

same womb. In this case there was, in all probability, an intercommunication of blood-vessels between the placentæ, and the circulation of one child was kept up by the agency of the other's heart. The nutrient blood was impelled from the placenta of the perfect child into that of the other, receiving its *vis à tergo* from the heart of the former, and proceeded through its funis into the system of the monster, from whom it was returned by the veins back again to its own placenta, and thence to the other placenta.

Dr. Chowne could not concur in the extremely ingenious view given by Mr. Bushell. It was not at all certain in this case, nor a common thing generally, that vascular communication existed through the adjacent placentæ. Neither did the explanation of Mr. Bushell remove all difficulties in the way of a clear conception of the matter. In the case present, the monster had a distinct funis, which communicated with the main arterial trunk of the fœtus. The blood proceeded through the umbilical vein to this trunk, and its further circulation would depend more obviously on the contractile force of its own vascular system, however imperfect, than on the very distant impelling power of the heart of the sound fœtus. He was not disposed to consider that any but physical causes could operate in the modification of the fœtus. The physiological principle of prospective impregnation was admitted in comparative anatomy. It was known that, in certain birds, one coitus impregnated all the eggs generated in an entire season; and in certain insects one coitus was sufficient to impregnate the female for life. It was on record that a mare, once covered by a quagga, produced mules partaking of the nature of both parents; but being covered for several subsequent seasons by a horse, without being brought near the quagga, the foals without exception partook more or less of the qualities of the quagga. It was notorious amongst sporting men, that a bitch once lined by an inferior dog became useless for breeding ever after, the offspring being always mongrels. He could very well imagine that a woman who had once conceived by one man should afterwards, though embraced by a different man, produce a child resembling the first. The ovum might have received its first degree of impregnation from the first male, and its complete maturation from the second.

Dr. Wilks and Dr. Burgess related instances in animals and in human kind, in which mental influences were considered to have modified the growth of the fœtus.

Mr. Verrall considered the arguments of Drs. Thomson and Chowne strongly in favour of the principle, that the mental condition of the female patient had an operation on the development of the embryo, and he related one or two cases in point.

Mr. Clarke observed that the monstrosities in their development always obeyed certain teratological laws, and depended upon arrest or retardation of development, upon superposition or deficiency of organs. These laws were invariable, and it was therefore unreasonable to admit the operation of circumstances so perfectly incidental as the temporary frame of the mind of the mother.

Mr. Snow, returning to the preparation, argued that the circulation in the monster was kept up by the force of the capillaries.

Dr. Addison could not concur in the ridicule which had been thrown upon the relation of these facts. He would not go the length of saying that any theory had as yet been established; but he thought the facts should be left alone, and considered as singular unexplained instances, which future discoveries might probably account for. It was uncontroverted that the mind of the mother had a given effect, however small, upon the state of the child; the question therefore was reduced to one of degree. Dr. Addison now related several curious instances of malformation arising from supposed impressions upon the fancy or feelings of the parent, and amongst others a very remarkable one. A woman, somewhat advanced in pregnancy, witnessed a pantomime in one of the theatres. The appearance of the clown very much excited her attention, and the image of the man haunted her during the remainder of her pregnancy. She was confined at the full time. She had an easy labour, and she was delivered of a child full grown, and marked all over with red stripes, a perfect veresimilitude of a clown. The child died, and is now in the museum at Guy's Hospital, open to the inspection of the whole professional world. He (Dr. A.) gave it merely as a singular fact; he did not pretend to account for it.

Dr. Chowne objected to the vagueness with which all the adduced cases were related. There was no real similarity between the monstrosity and the object with which it was compared; and there was, in fact, a double operation of the imagination; first, that of the mother supposing the influence of her feelings and perceptions on her offspring; and secondly, the fancying a resemblance which had no existence.

A paper by Dr. Addison, on Malaria, was announced for the ensuing Saturday.

IDIOS.

SWALLOWING PINS AND NEEDLES.

A VERY curious medico-legal fact is narrated in the *Gazette des Tribunaux*, and the *Droit* of the 16th of November. A servant girl, of seventeen, named Rose Melanie Selter, was tried before the Court of Assize of the Seine, for attempting to kill a child, aged two months and a half, by making it swallow ten pins. The case alleged was as follows:—

The Sieur and Dame Fournereau have an only child, now about five months old*. It was suckled by its mother, and was in the finest health, when, on the 7th of last April, it was attacked with dyspnœa and fits of suffocation, which made its parents fear for its life. On the following days its sufferings continued, and it seemed as if there was something in the infant's stomach and throat which obstructed respiration. However, on the 10th of April the pains ceased, and the infant recovered its health.

The cause of the attack was unknown, until, on the morning of the 11th of April, Fournereau's wife found three pins in the child's stool, four more in the evening, and three the next morning; making a sum total of ten pins that the child had swallowed. Fournereau and his wife attributed what had happened to the malice of the servant girl, and discharged her.

On their complaint, Selter was taken up, and confessed before the commissary of police that she had made the child swallow ten pins on the 7th and 8th of April; and that she had done so in order to get herself discharged and sent home to her parents, who forced her to go to service. In the written statement, the prisoner still said that she had made the child swallow the pins, but asserted that it was all done on one occasion; and that she must have lost her reason to do such a thing, for she loved the child, and had no cause for animosity against her master and mistress. She also alleged that at certain periods she was worried by her blood to such a degree that she did not know what she was about.

It seems that three or four years ago the prisoner had some symptoms of insanity, consisting of a nervous agitation, which made her run about the country without any object, and compelled the Sieur Maugin to send her home to her father.

A physician was ordered to visit her in prison, and make his observations upon her for a certain time. He reported that no symptom of derangement had appeared since her imprisonment. Dr. Ollivier, of Angers, being consulted by the court as to the seriousness of the attempt medically considered, replied as follows:—

"The introduction of the pins into the child's body did not produce any serious symptom; this is not surprising, for there are numerous examples of the same kind on record. Thus there is a case of a young girl who had swallowed pins in her childhood, and did not get rid of them till fifteen years afterwards. There are pains, indeed, and a feeling of suffocation at the moment of their passing into the œsophagus, and that is all. A young girl who was insane, a toy and doll-maker by trade, and who also had pins about her, swallowed fourteen hundred of them, which were all found in her body; her muscles were as thickly set with them as so many pincushions. Nevertheless, her death was quite independent of this occurrence. Hence, the rule is, that bad symptoms are not produced, but there is a considerable number of exceptions, where abscesses in the liver or the abdomen, and death itself, were caused by pins.

"The story which the prisoner first told me is possible, and the pins may all have been given to the child at once. As to whether they were swallowed head or point foremost, I cannot answer that question; for though they may have been passed with the head foremost, they need not have been introduced in the same way, since they may have been reversed in their passage.

"It was next my duty to examine the state of the prisoner, and to do this effectually, I inquired into her previous history. After having lived in Paris from her earliest years, she passed a year and a half in her native district. The official papers contain the notes and descriptions of persons who saw her during that period. I was struck with the contrast between the physical development of the girl and her slender intelligence. She is sixteen and a half, and you would have taken her to be twenty; but though physically developed, her conduct is that of a child. I have observed alternations of good and bad health since her confinement in prison. She suffers from headache very frequently; she feels very drowsy, and it is particularly at the catamenial periods that she is in this state.

"Selter told me at first that it was at one of these periods that she committed the crime of which she is accused. It was my duty to draw conclusions from all these facts, and I must say that nothing, either in the conduct or the answers of the prisoner, showed any disorder of the intellectual faculties. Nevertheless, after having maturely considered the interesting medico-legal questions which arise in this

* The indictment having been drawn up in June, as we suppose.—TRANSLATOR.

case, I declare, that when I connect together the habits of the prisoner's childhood with what is extraordinary and motiveless in the act of which she is accused, I have my doubts. (A sensation in court.) This uncertainty is increased when we think of the temporary disturbance which certain periods that I have just mentioned cause in women. It is my duty to tell you, that I have my doubts. I do not now oppose what I said in my report, but I am less decided than I was."

The Advocate-General.—"There is a fact that you do not know, because it has only come out in the proceedings. The prisoner did not shew the least emotion during the whole course of the child's illness. What deduction can you draw from this?"

Dr. Ollivier.—"To a certain extent this would seem to confirm what I have just said. If she had had sensibility, as every one else has, she would not have been able to see the child's sufferings without betraying herself by her uneasiness. It may be possible that she acted without intention, mechanically, and by one of those instinctive impulses of which we may each find examples by examining ourselves."

After a discussion between the advocate-general and Dr. Ollivier on the state of the prisoner's intellect, and hearing some witnesses for the defence, M. Plougoulm, the advocate-general, rose, and gave up the prosecution.

After a short deliberation, the jury brought in a verdict of not guilty, and the president declared the prisoner acquitted. The girl seemed unconscious of what was going on; she heard her acquittal without betraying the least emotion, and did not think of leaving the court till told to do so by the *gendarmes*.

The preceding facts sufficiently prove that there was no *malice prepense* in the prisoner when she made the child swallow the pins, and that the act can in strictness be called nothing but folly or madness; and the judgment of the court was founded on this supposition. Still there remains a medico-legal question, but which our space will not permit us at present to examine.

CHERRY-STONE IN THE WINDPIPE.

To the Editor of the Medical Gazette.

Sir,

The case of a foreign body in the trachea, related in your last number, by Mr. Harbord, of Liverpool, reminds me of a similar case which I treated some years ago, at Basingstoke, and which you may perhaps think worthy of publication. The subject of it was a corpulent middle-aged woman, who, whilst at dinner, suffered a cherry-stone to pass into the larynx. The symptoms were of the most distressing nature, threatening immediate suffocation. In the hope of obtaining the expulsion of the stone by the efforts of vomiting, I irritated the pharynx with a feather; and, by repeating this process several times, the stone was in about five minutes ejected through the month with great force to a considerable distance across the room. The distressing symptoms immediately ceased, and no further inconvenience was experienced.

I am, sir,
Your obedient servant,
N. Adams.

Lymington, Feb. 6, 1839.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, February 14.

James Dudden Perrin, Temple, Cloud.—John Banks Bellin, Malpas, Cheshire.—Samuel Molyneux, Wigan, Lancashire. — William Robert Cooke, Northampton.—Henry Darwin, Wentworth, Yorkshire.—Alfred Dew Harston, Leicestershire.—John Anningson, Patrington, Yorkshire.—Daniel Ross, Shadwell.—Benjamin Vale.—Charles Thomas Wagstaff, Leighton, Beds.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Feb.* 12, 1839.

Age and Debility	40	Hooping Cough	3
Apoplexy	4	Inflammation	15
Asthma	11	Bowels & Stomach	4
Cancer	1	Brain	4
Childbirth	3	Lungs and Pleura	3
Consumption	41	Liver, diseased	1
Convulsions	18	Measles	8
Croup	1	Mortification	2
Dentition	9	Paralysis	2
Diarrhœa	1	Small-pox	7
Dropsy	12	Sore Throat and Quinsey	1
Dropsy in the Brain	9	Thrush	2
Dropsy in the Chest	2	Unknown Causes	69
Epilepsy	1		
Fever	2	Casualties	3
Fever, Typhus	4		
Heart, diseased	1		

Increase of Burials, as compared with the preceding week . . . 49

Errata.—In Mr. Estlin's paper, in our last number, page 710, in the first column, and seventh line from the bottom, *for* "uncertainty," *read* "certainty." The reader will perceive, on referring to the passage, that the correction is absolutely essential to the true meaning.

Page 720, first column, lines 28 and 29 from the top, *for* "certain gravity," *read* "centre of gravity."

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THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, FEBRUARY 23, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

Pathology of Urinary Diseases in general.

Having considered the various constituents of the urine, whether natural (and in the normal or abnormal proportion), foreign and adventitious, or accidental, and the means of proving them, we are prepared to pass to the pathology of the morbid conditions. And here, perhaps, it may be useful to define the acceptation in which we shall use the term pathology. The term anatomy comprehends a knowledge of the structure, situation, and relative position of the different parts of which the human body is composed. Every part in the body has some use, and performs some part in the grand *whole* named the "animal economy." These, in reference to particular organs, are named *functions*. Thus *respiration* is the peculiar function of the lungs; the formation of *bile* that of the liver. The investigation of the mechanism, and the mode in which this mechanism is adapted to and performs its particular function, is correctly named *physiology*. Hence we speak of the *anatomy* of an *organ* or *tissue*; but the *physiology* of its *function*. When organs suffer from disease, the structure undergoes changes, whether apparent or not. When the changes of structure are evident to the senses, the investigation and development of these changes constitutes *morbid anatomy*. But the manner in which disease produces these morbid changes—in fact, the tracing out the different steps, as it were, and the means by which these morbid transitions are effected—constitutes *pathology*. Pathology, therefore, stands in the same relation to morbid anatomy that physiology does to descriptive or general anatomy.

We find, on examining the urine, that some of the natural constituents exist either absolutely or relatively in excess, while others again seem to be deficient, or even wholly disappear. We also occasionally observe principles wholly foreign to the normal constitution.

Water constitutes by far the greater portion, and sometimes this is so much increased in quantity that such urine could hardly be recognized by any of its sensible properties. In some cases it is so abundant that the urine closely resembles spring water. We can readily understand how watery urine may be voided, if the blood be inundated with water. This may occur from various causes; the action of remedies, as diuretics, especially in dropsies; the suppression of the cuticular transpiration, while the patient at the same time indulges in dilution. Indeed, the kidneys and skin seem to compensate each other's deficiencies, and when the action of the one is reduced that of the other is proportionally increased. Hence there is no more effectual way of reducing excessive discharges of urine than promoting the functions of the skin. Therefore whatever tends to inundate the blood with water will cause an increased flow of watery urine, for the kidneys are the natural outlets through which such purification is effected.

Water may be either absolutely or only relatively in excess. We have already stated some of the causes of the first condition. It is often associated with, and a consequence of, the phosphatic diathesis,

and especially in weak and sickly children. It is a frequent concomitant of the nervous temperament: hence it is observed often in hysterical females, and such as are subject to spasms. It is of importance to attend to this condition, because it will often prevent errors in practice. I cannot, perhaps, do better than illustrate what I have advanced by example.

I was once requested to see a female, a married woman, who complained of intense pain of the abdomen, and the surgeon who had visited her previously told me that he had bled, leeched, and adopted all the usual methods of treatment without the least advantage. I found her pale, the features sharpened, a dry irritable state of skin, the abdomen tense, swollen, and extremely painful, so that she screamed out if the least attempt was made to place the hand upon it; the pulse small and thready; the tongue red, and indicative of intense irritation. Now here we have a great majority of the symptoms of abdominal inflammation. Bleeding, antimony, and mercury, were resorted to without the slightest benefit. I found, however, on inquiry, that she frequently voided large quantities of urine—from three pints to two quarts at a time—and which was as clear nearly as spring water, perhaps sometimes with a slight tinge of green or blue. What I saw, and which had been passed about ten minutes before my visit, was quite limpid, tasteless, and devoid of smell; its specific gravity was 1001·235. When less was passed, the specific gravity varied between 1012 and 1016, and contained pale-coloured lithate of ammonia, and was generally opalescent from the deposition of this salt and a considerable quantity of mucus. I was satisfied from this state of things that the whole of the phenomena depended upon a highly irritable state of the nervous system; and I therefore directed six draughts, each containing half a grain of the acetate of morphia, one every hour till relief was obtained. It was only necessary to administer three, for she was completely relieved by the third. But cases of this sort are apt to terminate in melancholy, or some other form of insanity, especially if the disease be mistreated at first.

Diseases in which the watery portion of the urine predominates are variously described, and under various names, as Polyuresis, Diabetes insipidus, Diuresis, and sometimes Polydipsia—from the insatiable thirst which frequently accompanies some forms of it*.

Watery urine, however, sometimes abounds in saline matter, but for the most part it is deficient in animal, and especially the colouring and odorous matter. The urine, too, varies according to the period at which it is passed. That passed in the course of the day, or before dinner, is most abundant in water; is for the most part neutral, or slightly alkalescent. But after dinner and the excitements of the day, it is deeper coloured, of higher specific gravity, and will then redden litmus, though not in the same way as acid urine. The effect takes place gradually and slowly; not at once, as in the case of acid urine. Indeed what we have described are but the extremes of what occurs in health; as we may learn from Celsus:—"Scire autem licet," he says, "integrum corpus esse, cum quotidie mane urina alba, dein rufa est. Illud concoquere, hoc concoxisse significat*." We should also remember that the conditions of the urine are affected by the nature of the ingesta, and the time which may have intervened between and the voiding of the urine. Hence we have the *urina potûs*, secreted shortly after the taking of fluids, which is mostly tastless and colourless; and the *urina chili*, which is secreted after digestion has been completed. Nysten has investigated these two varieties of the urine, and he finds that the urina chili contains thirteen times more urea, four times more sulphates, muriates, and phosphates of soda and ammonia, and sixteen times the quantity of lithic acid. In many diseases the water is not only relatively but absolutely diminished, but this subject we shall consider at a future period.

Urea, we have seen, is a natural constituent of healthy urine, but sometimes it exists in very great excess. The source of urea is very obscure, although this principle has been detected in the blood of animals from which the kidneys have been extirpated, and in which the kidneys were diseased and incapable of their functions. Prevost and Dumas detected urea in the blood after the extirpation of both kidneys; and it has been thence inferred, that the reason it could not be detected in the blood while the kidneys are in action, was because it was separated from the blood by the kidneys as soon as formed†. Five ounces of blood from a dog whose kidneys were extirpated, yielded upwards of twenty grains of urea; two ounces of blood from a cat under similar circumstances, yielded ten grains. These statements have been confirmed by Vauquelin and Segalas. In these experiments it is

* Dr. Willis, in his late very excellent work on Urinary Diseases, includes the varieties of this disease under the generic term Hydruria.

* De Medicinâ, lib i. cap. 2.

† Dr. Prout, in the Gulstonian lectures, states that he detected urea in the blood many years since, but that he was unwilling then to trust the evidence of his senses.

stated that the blood was evaporated to dryness, the residue washed, and the water evaporated. The mass left was then treated with alcohol, which dissolved the urea, which was left when the alcohol was evaporated. The water, however, must be evaporated at a low temperature, by means of sulphuric acid, under the exhausted receiver of the air-pump. By operating in this way, they obtained from the blood of a dog, whose veins were opened sixty hours after the extirpation of the kidneys, 1-400th of urea.

The source of the urea in the blood itself cannot be easily accounted for; but still it may occur in one of two ways. First, "it may be formed as a useless compound of superfluous elements during the conversion of the food into the essential components of the blood; or, secondly, it may be conceived that it is an effete product of the change of material that is constantly taking place in the organized parts of the body*." In support of the first conclusion it might be urged that Tiedemann and Gmelin observed, during some of their experiments on the chyle, that the chloride of sodium mixed with the osmazome of the chyle crystallized in octahedrons instead of cubes; and you have already seen that urea causes chloride of sodium, when crystallizing, to assume the octahedral form; but, notwithstanding, there seems to be great difficulties in accounting for the formation of urea. The source of the urea, that is, from what organ it enters the circulation, is unknown. "It can at present merely be asked," says Müller, "by way of conjecture, whether, perhaps, the urea may not be generated in the lungs during the chemical process which the blood undergoes in respiration, and by which higher organic compounds are formed. It may, however, be produced in other parts also during the conversion of the new nutrient materials into the proper components of the organic fluids†."

But supposing urea generated in the lungs, or from any other source, it should be diffused equally and uniformly throughout the whole circulating mass. Therefore, the blood deposited in the left side of the heart, and thence circulated through the different tissues, should be equally loaded with urea, that only returned from the renal circulation being purged of this impurity. But it appears, that while the action of the kidneys continues, experiments fail in discovering urea in the blood; and it is only when they have been extirpated, or are otherwise rendered incapable of their functions, that this principle appears in the blood. The inference, therefore, which at first sight would appear legitimately deducible from the experiments of Prevost and Dumas, namely, that urea exists ready formed in the blood, and that it is merely separated during its transit through, not generated by the action of the kidney itself, does not seem tenable upon fuller consideration, inasmuch as this principle should be found diffused throughout the whole blood, and therefore should always be discoverable to some extent at least in the blood which had not been subjected to circulation through the kidneys, or some equally effectual mode of purification. All, therefore, that can be legitimately admitted, is, that when the renal circulation is suppressed or prevented, urea appears in the blood, but how or in what manner developed we have at present no facts to enable us to determine.

Since we cannot satisfactorily account for the development of urea, of course it is not to be expected that we can readily account for any unusual deviations from the healthy proportions. We, however, sometimes find that urea is deficient, not merely relatively, but absolutely; and this, too, independent of any serious, at least obvious, disease of the kidney. Cases often occur in which urea, in common with some of the other principles, is deficient; but these seem often to result from the presence of other morbid principles, and which, to a certain extent, seem incompatible with urea. Thus, in diabetes mellitus, when the urine is strongly saccharine, the urea disappears as the sugar predominates; and, again, as the sugar disappears, its absence seems to be supplied by a much larger proportion of urea. I have met with several cases in which these two principles alternated with each other every second or third day; so that on these days respectively the urine tasted strongly saline and somewhat bitter, and then, with nitric acid, it yielded very speedily a plentiful crop of crystals of nitrate of urea: but when in the saccharine state, no crystallization took place with nitric acid, even though the urine was evaporated to half its bulk; and the more delicate modes of investigation evolved the urea in little more than mere sensible quantity.

But independently of other diseases, there seems to be a condition in which the urea is absolutely deficient. This disease Dr. Willis has named "*Anazoturia*," a term expressive of unazotized urine. Such cases are frequently attended with an increased flow of urine, which is mostly of low specific gravity, varying between 1002 and 1010; and the quantity dischargod sometimes amounts to twelve or fourteen pints, or even still more, in the twenty-four hours; but we shall soon examine

* Muller's Physiology, p. 152.
† Ibid. p. 583.

how far it is entitled to be considered an *independent* disease.

Urine of this kind often contains carbonic acid combined with ammonia. In many cases this appears to result from the decomposition of the urea, which is changed into this salt. You remember that we formerly shewed that the urea is readily convertible into carbonate of ammonia. Here I happen to have some urine which effervesces very strongly upon the addition of hydrochloric or any other strong acid, and the gas which escapes, as you may see, renders lime-water quite turbid. Now this did not take place on its being first brought to me, but after it had stood two or three days. But in many cases effervescence will occur, on the addition of a strong acid, even from the first. The urine, as well as being abundant, is pale; and even if clear at first, becomes somewhat opalescent, owing to the gradual separation of phosphatic salts, with a tendency to which diathesis it often seems associated.

From the quantity of urine voided, the disease has often been described as diabetes, and more especially diabetes insipidus. I have here a specimen of urine, given to me by one of my pupils as a specimen of diabetic urine passed by a patient at the hospital which he attends, and where it is considered as a case of diabetes. But an examination of the urine has fully refuted this view, and consequently, should success attend the treatment, it may lead to erroneous notions as to the power and capabilities of remedies in diabetic cases.

Urea in excess is another very important form of disease, and indeed the more important, because it is very often the forerunner of one of the most intractable and formidable diseases to which the human body is subject. Although Dr. Prout states, that "he knows of no disease characterized by a diminished proportion of urea," yet, if you examine his Essay, you will find a very important disease treated of, the characteristic of which is an excess of this principle. As, however, we do not profess to explain the physiology of the presence of urea in the normal proportion, so we can hardly undertake to offer any thing satisfactory upon the pathology of its excess. It would, perhaps, be interesting to examine the blood of persons passing urine overloaded with urea. But even if discovered, whether with or without extirpation of the kidneys, still we should labour under the same difficulties as those already mentioned—that is, if not found with the kidneys in operation, we should be at a loss to account for its removal from the entire mass of blood; if the kidneys were incapable of their function, we should be at at a loss to account for so serious a morbid impregnation of the blood, compatible, not only with existence, but with a state of health in which the patient seems constitutionally to suffer nothing, and, indeed, hardly to be aware that he is ill. But of this we shall have to speak more at length when we come to treat of the diseases individually.

Other Principles as Derivatives.

Admitting the presence of urea, from whatever source, as the primitive, we shall not have any very great difficulty in accounting for most of the others; whether the natural ones in excess or deposited, or new ones generated by specific alterations in the primitive. We have already stated many facts relative to the action of various agents upon urea, and we have seen what has been determined in reference to this subject. We find in the chemical constitution of urea all the elements essential to vegetable and animal organism. Indeed, when we survey the material world, and contrast the wonderful and amazing variety of form and appearance with the philosophy of its structure, we can hardly reconcile to ourselves such immensity and variety of product, with between only fifty or sixty simple materials variously wrought and elaborated. When we apply the same philosophy to vegetable and animal organism—the variety of form and appearance presented by vegetation—when we take a similar view of the animal world, we could scarcely believe, were not the fact beyond a doubt, that NATURE had actually limited herself to *four simple* bodies as the essential materials for all this variety of product. These four simple elements are—hydrogen, oxygen, carbon, and nitrogen: there we find the elementary constituents of urea, and consequently, by the separation, partial abstraction, and rearrangements of the elements of this principle, we could form almost every variety of organic matter, either natural or morbid, that has been discovered in the urine. Organic chemistry, indeed, has effected many of these conversions: thus several varieties of animal and vegetable matter may be converted into oxalic acid by the action of potass, at least oxalate of potass or of ammonia, results from the reaction; and therefore the oxalic acid must be generated, as it was not discoverable previously. Dr. Prout, in the Gulstonian lectures, has taken a very important and novel view of this subject. He considers albumen as the radicle, capable of being resolved into different organic compounds. Thus he considers urea and lithate of ammonia, two of the proximate elements entering into the composition of albumen; or two of the organic compounds

into which albumen may be resolved. This forms a most important feature in urinary physiology and pathology, and if the views here taken be correct, we should be better able to account for the presence of urea in the urine, than upon the abstract fact that urea had been found ready formed in the blood when the kidneys were extirpated. Perhaps it may greatly assist us, or at all events it will tend to illustrate the subject, if we were to take a tabular view of the organic principles discovered in the urine. We shall thus be able at once to contrast, not only the constituents, but also the proportions in which they are combined to form the different products. Of course we shall make albumen the primitive, and the others may then be considered as the derivatives, either immediate or proximate and remote. Thus urea would furnish an example of an immediate derivative, while the carbonate of ammonia, into which it may be converted, would be an example of a remote or mediate derivative, because formed through the *medium* of the urea, which is to be considered as the proximate one. Dr. Prout gives the following synoptical view of the constitution of the four following:—

Elements.	Albumen.	Urea.	Lithic Acid.	Sugar.
Hydrogen	8·75	2·5	1·25	1·25
Oxygen	30·00	10·0	15·00	10·00
Carbon	56·25	7·5	22·5	7·5
Nitrogen	17·5	17·5	17·5	..
	112·5	37·5	56·25	18·75

From this table we observe that three of these principles contain exactly the same proportion of nitrogen—17·5. The weight of the urea is exactly double that of the sugar; and the great difference between urea and sugar seems to consist in the presence of nitrogen in the former, and its total absence in the latter principle. "The true and legitimate object of inquiry for the physiologist," says Dr. Prout*, "ought to be not what this principle (the organic) *is*, but what it *does*. Let us take a mass of sugar, as a familiar example of a substance formed by an organic principle, and which probably will never be formed by any other agency†." Organic matters, however, differ materially from inorganic, in both their sensible and general properties. Organized bodies, in general, do not crystallize, and instead of the linear and angular figure, their ends are rounded, and their intimate structure amorphous. Sugar, an organic product, consists of oxygen, hydrogen, and carbon. "In operating upon these principles in mass," says Dr. Prout, "as we are obliged to do in our experiments upon them, I need not say that we have never been able to cause them to combine so as to form sugar; but if, instead of operating upou the elements in mass, we were enabled to contrive an apparatus so constructed as to exclude all foreign agencies, and to bring the particles of each of the elements together in succession, there can be no doubt, from the natural affinity existing among these particles, that they would combine, and that the result would be the same identical substance, sugar, the same as it is formed by nature." The same enlightened philosopher asserts, that this is the principle upon which all organic processes are conducted. "No where do we see the organic agent act upon elementary principles in mass, as we are obliged to do in our experiments; but by the medium of a complicated and minute apparatus, which enables it to operate, as it were, on the ultimate particles of bodies, and by these means to exclude some, and bring others into contact, according to the design in view."

Bodies, according to the views of Prout, are grouped together in families which observe certain fundamental laws in common, and the three great natural families which form the ground-work of organic constitution, he considers and names the *saccharine*, the *oleaginous*, and the *albuminous*. The radical law pervading the class of saccharine bodies is, that they are essentially constituted of carbon and water in various proportions. The law, with respect to the oleaginous, is, that they are composed of olefiant gas and water. He does not deny the principles of atomic constitution as generally received. The atomic of water, for instance, 9, if rigidly and exclusively adhered to, would lead to infinite

* Gulstonian Lectures, in Med. Gaz.

† Sugar, however, seems to have been formed in the laboratory of the chemist, as by the action of sulphuric acid upon different substances.

complexity and fractional division. Therefore, 9 is to be considered as only one term of the series, 3, 6, 9, 12, 15, in which proportions, and still lower submultiples of them, water enters into the constitution of bodies, especially in the organic kingdom, as often as in the ratio of 9. He believes, also, that bodies as they descend in the quantative series, lose their power of contributing to crystalline forms, and acquire what he term a merorganizing faculty, and this appears to be especially the case with water, which, even within the limits of our experiments, very obviously modifies crystallization.

CLINICAL LECTURES ON MEDICINE,

Delivered at the Meath Hospital, Dublin,

Session 1837-8,

By Professor Graves.

Lecture X.

Dr. Fricke's Recent Observations on Syphilis—continued.

How long the period of incubation of the contagion may last, is by no means determined; there are cases in which a connected series of symptons of alternate improvement and and aggravation points out the struggle of the constitution against the contagion, the latter ultimately gaining the ascendency and exhibiting itself more and more in fresh secondary affections. Often, however, these affections, breaking out after a number of years, are not of a truly syphilitic character, but the result of a cachexy produced in a system already undermined by previous attacks of syphilis, and by a variety of noxious influences which develope morbid diathesis, or bring into play acquired predispositions. Hence, in all localities favouring the production of cachexies, we find peculiar forms of disease which we are forced to look upon as syphiloid, inasmuch as they present the same modified forms of scrofulous and impetiginous disease in which syphilis is known to have the initiative—a property shared by it in common with measles, small-pox, and all other contagious affections. In such a case as this, to attribute the whole series of morbid phenomena to the previous syphilis would be as incorrect as to regard growth as the sole cause of phthisis. Growth merely developes an original disposition, viz. the phthisical; and we have only to suppose that the disease existed in a latent form to avoid all error on the subject.

6. The original seat of contagion is either the mucous membrane of the genital organs and its mucous follicles, or the chancrous, *i. e.* a portion of external skin brought into the condition of a mucous membrane.

7. No advantage to the treatment of syphilis results from making distinctions between its primary forms, and particularly between gonorrhœa and the syphilitic virus. They all get well under the (so-termed) antiphlogistic treatment. The mucous membrane of the male genitals, which occasionally becomes violently inflamed, and secretes copiously and obstinately from the mere introduction of bougies or the matter of non-syphilitic blepharophthalmia, is irritated by the syphilitic virus just as it is by these foreign chemical or mechanical influences. Gonorrhœa, however, for the most part has its origin in other morbid sources (leucorrhœa, the period of menstruation, before and after the same, &c.) which are modified solely by coitus, by it produce a noxious effect on the system, and without it are to be looked upon as harmless. We have not hitherto been able to tell by the appearance of the discharge from what source it arose. The conjunctiva is much more frequently observed in a purely inflammatory state than the mucous membrane of the urethra.

8. Sometimes, but very rarely, we observe a transition from gonorrhœa to chancre. In 200 cases in which inoculation with gonorrhœal matter was performed, there were only two instances of chancrous sores as the result. A greenish yellow discharge from the uterus produced by inoculation genuine chancre, and gave rise to gonorrhœa when introduced into the male urethra by means of a fine bougie.

9. The importance of bearing in mind the Disposition is still further shewn by Richter's supposition of the exisence of a gonorrhœal lues (*Darstellung der Scheinbaren Aehnlichkeit und wesentlichen Verschiedenheit Zwischen Tripper und Chanker*, Leipsig 1819), and Autenrieth's of a gonorrhœal scrofula, *Tübinger Blätter für Naturwissenschaft*, &c. Band I. Heft 2.) Every disease affecting the whole system, and syphilis and gonorrhœa among the rest, is capable of awakening dormant predispositions; hence syphilis or gonorrhœa may give rise to tumors of the joints and nodes in persons of a rachitic or rheumatic constitution. The sympathy between the kidneys and urethra is remarkable in one point of view, namely, *that in gonorrhœa the urine is found to contain a large quantity of albumen.* What the consequences may be of the removal of so much albumen from the system, whether it be a species of natural antiphlogistic, or whether chemical analysis can prove the existence of a deficiency of albumen in the blood, is not yet determined; it is a condition, however, which has been observed in connexion with many forms of cachexy. The mental impression caused by gonorrhœa—the almost incurable hypochondria syphilitica

—indicate some important alteration in the admixture of the fluids. The interesting observations of Gueterbock, Wood, Vogel, and Henle, on mucus and pus, establish for mucus (inasmuch as it is now to be distinguished from pus) a high rank among the organized fluids, and, in fact, the albumen ovi, which bears an analogy to the mucus of the genitals of the mammiferæ, is a species of pus or mucus secreted by the oviduct, and of great importance in the generation of the bird.

(*b.*) *Disposition.*

The state of the system, and in particular of the cutaneous tissue, is deserving of consideration, not only during coitus, but also during the whole course of the disease. Many persons will not take the disease either by coition or by inoculation, and in general persons in a tranquil healthy state will not receive the contagion even when the virus is brought into contact with abraded surfaces. Dr. Fricke on one occasion, while examining a gonorrheal patient, had the whole contents of an urethral lacuna squirted into his eye; simple ablution of the part prevented all bad consequences.

The delicate skin of fair persons and that of the negro favours the reception and spread of contagion; the same is the case with persons of a dirty greasy skin, or where the functions of the skin have been injured by an unquiet life or by change of climate. Hence the inhabitants of northern climates, who in general seem to exercise a stronger reaction against contagion, suffer much more when they visit more southern regions. Hence also the rich suffer less than the poor. Persons of a sanguine temperament are in general the most susceptible; the whole system in such persons, and the mucous membrane in particular, being in a state of excitement. France would suffer less from this disease were it not for the slight attention paid to the skin, and the use of mercury.

The scrofulous and rachitic, the rheumatic and gouty diathesis, the predisposition to lupus and herpes, have alike an influence in determining the form of what has been termed secondary syphilis. As there exists in some individuals a complicated predisposition to sore throat, probably depending on a scrofulous diathesis, the predominance of the mucous tissues and gastricism, the eruption of ulcers of the throat, may be apprehended under the following circumstances:—The throat is narrow, the tongue arched, and with difficulty pressed down in the mouth; the bark of the throat cannot be seen without exciting nausea, the mucous membrane secretes copiously and is covered with moisture; the soft palate is of a more or less deep red colour, the arches of the palate hang very low down, the glosso-palatine higher than the pharyngo-palatine; the uvula, which in the normal condition has only a red stripe down its centre, is of a uniform red colour, covered with mucus, and adheres readily to either of the tonsils; the latter stand near each other, are red, and covered with a viscid mucus; the whole mucous membrane of the throat is very sensitive, secretes more copiously when the mouth is kept open, and becomes redder as if new vessels became suddenly developed in it. Under such circumstances we may naturally expect ulcers in the throat; under opposite conditions we look for them in vain. Sometimes the mucous membrane of the choannæ becomes indurated, applies itself to to the tonsils, and produces excoriations, which however heal under the use of emollient injections. The occurrence of fresh catarrhal and gastric derangements seem to have a considerable influence in bringing about all syphilitic metastases, or at least direct the force of the morbific process to parts already weakened and predisposed. The predisposition to buboes depend upon other causes as well as scrofula; among these we may mention much walking or bodily exertion. Women are more liable to these glandular affections than men; persons of spare habit and firm fibre, as also persons labouring under hernia, in whom the parts are subjected to constant pressure from a truss, seldom suffer from them unless they happen to be in a highly cachectic condition. Not unlike bubo in many respects is the disease termed orchitis blennorrhagica (inflammation of the epididymus, and infiltration of its substance with organized lymph, owing to the extension of urethritis sympathetically or by metastasis) an occurrence which may be expected when we find the vas deferens becoming swollen and painful. The testicle itself remains during the whole time unimplicated; it is, however, frequently displaced, and hence, in order to detect it, the part must be examined very closely. The lymph is infiltrated so completely, and becomes so intimately combined with the substance of the epididymis, that the consequent hardness in many instances will not yield to any remedial agency, and though it may be somewhat reduced by compression, it remains quite perceptible even after the lapse of twenty years.

There exists naturally a sympathy between the mucous membrane and the skin. An exanthema is sometimes produced not only by balsam copaiba, but also by turpentine, for the cure of gonorrhœa. The syphilitic cutaneous affections depend partly on the virus being either wholly neglected or imperfectly cured, or, as is frequently the case, aggravated by the abuse of mercury, partly on the sympathy already alluded to. The peculiar form of the eruption depends partly on the condition of the skin, and partly on

what has been termed the acrimony of the fluids or dyscrasy. Persons of a dark complexion and a dirty freckled skin are most liable to these eruptions. Itch appears to have less power in modifying the eruption than other dyscrasies, as, for instance, the herpetic. The occurrence of gonorrhœal ophthalmia and of syphilitic iritis furnishes strong proofs of the existence of a species of elective affinity, of an unknown metastasis from one diseased tissue to another predisposed to disease. The former affection, if it be produced by infection from contact, should be more frequent. Interruption of the urethral discharge is never the cause of epididymitis (on the contrary, inflammation of the epididymis and the parts in its vicinity acts as a derivative on the gonorrhœa, and arrests its flow), much less can it be exclusively the cause of inflammation of the remote conjunctiva. Hence we must ascribe to this membrane (forming as it does a transition membrane between the mucous, serous, and cutaneous tissues) a greater predilection for the virus of clap, than to the mucous membrane of the ear or nose. It is quite plain that iritis arises without contagion, and without any other metastasis than that common to all syphilitic affections. Indeed it comes on frequently after a protracted treatment either with or without mercury. The iris conducts itself here like the fibrous periosteum; it is not affected until some time after the external tissues of the eye, which afforded, as it were, a kind of point of attraction for the disease. There exists also a peculiar disposition to condylomata as pseudo-products, among which the conical condylomata, as being parasitic productions endowed with remarkable vitality, present the characters of the contagion in the highest degree. Whether the pathological process by which they are generated be the same as that by which the fungosities of ulcers are formed, and whether their bases be a structure intermediate between polypus and wart, remain still undecided. Dr. Fricke saw them appear as the harbingers of more serious affections, as, for instance, of fungus medullaris of internal organs. Prof. Otto (in his *Dänischer Zeitschrift*, 1838, Heft 2) relates an instance of their production as the result of unnatural coitus between two persons perfectly free from syphilis. Rognetta (*Gazette Médicale de Paris*, June 1836) describes a species of warty growth from the anus which might have passed for condylomata had not the chastity of the individuals been well known; hence we are not in all cases of condylomata to assume the preexistence of syphilitic contagion. Again, with the tendency to form condylomata there coincides a tendency in the skin to form warts and corns—a tendency the source of which is probably seated in the mucous membrane of the kidneys, or of the digestive apparatus in general. The flat condylomata heal readily, but the conical can by no means be destroyed, so that we are forced to leave them alone and let them wear themselves out. They prove themselves to be a mere secondary syphilitic formation by this fact,—one cannot produce chancres from them; the moisture exuded by them produces only excoriations and condylomata of the parts with which it comes in contact, just as all acrid secretions do, and any secretion may be regarded as acrid to all parts to which it is not the natural stimulus. The primary and secondary condylomata are very similar; the circumference of the former, however, is less than that of the latter, and their secretion not so copious.

With regard to affections of the bones, (the occurrence of which indicates that the system has yielded to the morbid influence of the syphilitic poison) affections, too, which make their appearance in persons disposed to cachexies, who have scarcely escaped rickets, and who have already a tendency to rheumatism and gout, even here mercury is not free from all blame as a cause. This opinion is supported by the power which mercury has of destroying vitality, and hence of destroying the vitality of pseudo-products, by the circumstance of mercury in the reguline state having been found in the bones (*Chirur. Annal.* loc. cit.), and the fact, that these affections disappear on the occurrence of symptoms of salivation.

It is an undeniable fact, that syphilitic affections, and even ulcers resembling chancres, or the sores produced by inoculation with the matter of chancre, may be congenital; but it rarely happens that infection takes place during birth, much as the condition of the child's skin might seem to favour the reception of the virus. Women labouring under syphilis in a very high degree, give birth to children which are healthy, and continue so, just as occurs with mothers affected with herpes and other morbid predispositions. Where discharges or eruptions of a syphilitic character appear immediately after birth, they have already lost their contagious property, (they cannot be reproduded by inoculation), and this seems to favour the opinion that the syphilitic contagion acts much more than others as a mere morbid stimulant, producing no peculiar cachexy, and merely maturing or modifying preexisting morbid diathesis. Thus a scrofulous person, by means of syphilis, becomes more or less truly scrofulous, and in many cases, for the first time only at a late period, and where his health has been disturbed by other causes, after the actual cure of the syphilitic affection. It is then not syphilis, but the original morbid diathesis

modified by syphilis, which becomes propagated. Hence in deciding on a plan of treatment, this diathesis, or, as we have termed it, *disposition*, is the chief point for consideration, and hence also results the curability of syphilis by so many different means. The same thing holds good with respect to what are termed relapses, which occur under every form of treatment, and more frequently under the mercurial, because where there is hereditary predisposition, a new morbid stimulant will be given to scrofulous, herpetic, rheumatic, and gouty affections. Hence, too, the origin of those exceedingly obstinate chancrous ulcers of the prepuce, constantly reappearing after imperfect cicatrization, and consequently after detachment of the cuticle. The edges, for instance, remain callous*, hence slight motion is sufficient to break open again the badly healed ulcer. In the latter case cataplasms, in the former astringent applications, to diminish the sensibility of the prepuce, produce the best effects.

II. THERAPEUTICAL PRINCIPLES.

To establish the rationale of treatment, it would be necessary to attain a knowledge of the origin of the contagion; the mere treatment, it is true, does not require that any regard should be paid to the contagion; it can be cured without it, and mere experience will lead to the establishment and proof of a counterpoison and a real poison. But the theory of treatment requires this consideration. How, then, are we to ascertain the nature of the virus? The period of its origin may be more certain than the place, but the period is as remote as the persons who first observed the disease, and the constitutions which presented themselves for observation†. The following facts, however, demand our attention:—

1. The contagion results from the contact of different individuals, and of the external skin or semimucous membrane of the male with the mucous membrane of the female;

2. It is promoted by the mucus of the female, which is inclined to acrimony, and which as well as the seminal fluid of the male is a highly vitalized product, and looked upon as contributing to vital development;

3. By the mixture and mutual neutralization or solution of different spermata, as well as by their predominant constitutional influences;

4. It is received when the sensibility of the part is in the most exalted state;

5. It shows its action more especially on all the sensible organs of reproduction, modifies (as has been already stated) every morbid disposition, or matures and stimulates the existing disposition to increased action or pseudo-production.

Now if, bearing in mind what we learn from physiology and therapeutics, we call the contagion a *pseudo-sperma*, or in other words, a peculiar albumen, the result of the exercise of the generative function, we thence get an explanation, 1st, of the congestion which it produces in the generative organs, as in gonorrhœa; 2d, of its tendency to attack and involve all the reproductive tissues, especially the skin; 3d, of its tenency to the formation of pseudo-products *; 4th, of its tendency, proved also by the history of the embryo, first to attack sensible parts; 5th, then to develope itself according to certain antitheses (poles or metastases); 6th, the indications for treatment, the happy results of which afford a further conclusion as to the nature of the disease, as well as an explanation of the success of other methods, and particularly of mercury.

The method of treatment to be employed deserves the name of the *antiplastic*. Sudden weakening of the system by venesection is, with a few exceptions, wholly unnecessary; on the contrary, the constitution may at first require a generous diet, to enable it to sustain the reaction; if during its continuance the sores increase, they disappear so much the more speedily afterwards, when the abstinence-cure is commenced. This, however, need not be made a complete hunger-cure, and perhaps it has been laid down too strictly in the *Chirurg. Annalen;* the severity of it should be lessened in proportion to the patient's improvement. On the other hand a too careful or solicitous attention to cleanliness cannot be shown †. Rest is an excellent antiplastic: during its observance chymification and assimilation are less active; all the functions are carried on with less energy; and thus the contagion, neglected, as it were, and limited in its seat, dies out of itself. Of itself it possesses naturally but little power, and where cleanliness and regulation of the diet are attended to, as well as a proper regard paid to the peculiar disposition of the patient and the course of the disease, rest may be less strictly enforced after the lapse

* It is a mistake to regard this callosity of the edges as foreboding the occurrence of secondary symptoms.

† Pitschaft (Hufeland's Journal for March, 1838) quotes some old German verses of 1472 about King Wenzel, in which it is stated, that after drinking mum he was attacked with putrefaction of the genitals, and died.

* The well-known Kleeblatt, so often found in the ovary, the hair, fat, and teeth, probably bear some analogy to syphilitic diseases of the skin, mucous membrane, and bones.

† From this cause, as Dr. Fricke has often convinced himself, the rational method often fails in private practice. We are not able to enforce cleanliness, which is generally attended with pain, and we are obliged to trust too much to the patient's statements.

of a few days. A plentiful meat diet is apt to bring on buboes, while a strictly vegetable diet tends to give rise to condylomata. Internally, it will be sufficient to administer Epsom salts in such doses as to produce a few evacuations daily, and even in this point we may abate a little in our original strictness after a few days. Decoction of sarsaparilla, infusions of senna or Carica arenaria, and the acids, particularly the nitric, are also employed with advantage. Hydriodate of potass, either with or without decoction of sarsaparilla, is an admirable remedy, and greatly esteemed in many parts of Germany.

Mercury, even supposing that it did not exercise a more injurious effect on the system than Peruvian bark, must, as a specific, militate against a sound knowledge of disease (for all specifics lead to a false system of therapeutics), and particularly of syphilis, in which every thing depends on individualizing and accurately examining the morbid predisposition. The secondary forms in particular require a regulation of those functions whose disturbance constitutes the source of the disease, and consequently a regulation of diet in the strongest sense of the word. The stomach and skin are the two organs which are chiefly deranged. The same plan of treatment which we would follow in treating cases of herpes, scabies, scrofula, gout, rachitis or periostitis, depending on ordinary causes, must be also followed where these diseases have been called into existence by the syphilitic virus. On the whole, however, secondary syphilis is rarer than is generally imagined. Neither secondary symptoms nor relapses require treatment different from that which is adopted in the cure of primary symptoms; a treatment the chief features of which are that it is external, not opposing or obstructing nature, but rather assisting her by cleanliness, &c. Fresh air often cures cutaneous affections in a short time; condylomata disappear after the lapse of a certain time under the use of a variety of escharotics, without our being able to fix on one as a specific. At all times, regard should be paid to morbid states of the constitution and morbid temperaments, and we should take especial care not to excite any cachexy in the patient. A mild limitation of vital activity is sufficient to cut off all support from the morbid parasitic action, or at least to obviate all unfavourable influences.

A minute account of the modifications which have been made in the treatment described in the *Chirurg. Annalen* would require a treatise as long as that in which they were originally set forth. We must therefore refer to this work, as it would require a whole book to give the results of 1000 registered cases.

SIX

CASES OF ELEPHANTIASIS,

TREATED FOR THE MOST PART BY FUMIGATION.

To the Editor of the Medical Gazette.

Sir,

Without entering into the anatomical or physiological changes which take place in diseases of this nature, but with the view of adding a little to their pathology, I send you the following brief cases for insertion in your valuable journal, if you judge that they will be interesting to your readers.

I have omitted the daily record of the progress made, or of medicines prescribed, in order that I might not occupy too much of your space, and as being needless under the circumstances.

I am, sir,
Your obedient servant,
Jonathan Green, M.D. &c. &c.

Great Marlborough Street,
Jan. 23, 1839.

Case I.—Captain C., aged more than sixty, after a protracted service in India of upwards of forty years, returned to England, the subject of elephantiasis Græcorum, with which he had been assailed 22 years before. He was the patient of the late Mr. Earle, who, after trying various means of relief uselessly, thought the fumigating baths indicated, and the patient was accordingly submitted to their influence. It was the most confirmed and unequivocal case I had ever seen, either in the tropics or at home, where the disease is rare. The patient's visage was flattened as those of the Chinese *; the forehead broad and wrinkled; the eyes globular and large; the nose enlarged, and nostrils wide and gaping; the lips enlarged and protruding; and the whole of the front of the visage was studded with tuber-

* A curious physiological fact: this alteration of the countenance of persons after a long residence in foreign climes, which assumes more or less that of the natives. Ten years ago I had two children for patients: they had been sent to England to be educated. They were of English parents, but two more perfect specimens of Chinese children need not be looked for. Two years ago, two more children of the same parents came to England for the same purpose, and they were prototypes of the first two I had seen: they were accompanied by the latter, whom I should not have known again, for they had become perfectly fair, and each with a high forehead and prominent nose, which change had taken place during the upwards of seven years that I had not seen them.

cles, from the size of a horse-bean to that of a vetch: some of these were of a pearly whiteness, but none here were in a state of ulceration. The ears were standing out from the head, the lobules enlarged, hanging down, and the whole of the parts round about were studded with like tubercles; as were also the hands. His voice was peculiarly hoarse and croaking. On taking off his clothes, the whole of the trunk and all the limbs were seen to be covered with the same various-sized tubercles. There must have been very many hundreds of them; some were pendulous, and a few in a state of ulceration. The legs and thighs were the most enlarged. The skin all over the surface was of a dirty-brown colour, almost insensible, and so tense and thickened, particularly on the thighs and legs, that it was with difficulty it could be pinched up into any thing like a ridge. The inside of the lips, the lining of the cheeks, the whole of the palate, and down the œsophagus, as far as could be seen, were studded with the same kind of tubercles.

This gentleman did not know what it was to perspire naturally, and it was with difficulty any perspiration could be produced by means of the sulphur fumigating bath, the use of which he continued for eight weeks, except during three intervals of five or six days each, when he was uncomfortably influenced by calomel and arsenic, which he was taking by direction of Mr. Earle. I believe the patient was not benefited either by the medicines or the baths: he left London, and neither Mr. Earle nor myself heard any thing more of him. It was so long from the attack of the malady, that the patient had forgotten any cause to which he could fairly assign it; it had come on gradually, and had always been slowly on the increase. He was, even at the time of my seeing him, a robust man, and had never been, he said, inconvenienced by weak health. He was a married man, and enjoyed the usual virile powers of men of his age, but neither in excess nor in diminution; both of which states are said to be concomitants of this disease, by writers on the subject.

Case II.—The widow of a physician, aged 48, became my patient in February 1835. She had elephantiasis Arabum of one leg and thigh (Barbadoes leg). The limb was of a dirty brown colour, hard, little sensible, and tense, scarcely admitting of being pinched up into a ridge. It was covered with some twenty or more hard, whitish, various-sized tubercles, not often to be seen in this form of the disease, but I think tending to shew the close analogy with it and elephantiasis Græcorum. This patient's health, and particularly the animal spirits, were in a very depressed state, and for which for the last four years she had been always taking some form of tonic medicine. Notwithstanding her weakness, the pulse was full, and not wanting in strength. She was very subject to headache and constipation. Menstruation had ceased four years. This lady clearly attributed her disease to cold, wet, and misery, which brought on at the outset an attack of fever and ague, of which, as she got better, the swelling of the leg came on, and which in extent was great, considering the short period she had had the complaint—not three years. The cause assigned by herself was consequent exposure to the inclemencies of the weather, from her house being blown away during the night of the hurricane which occurred at Barbadoes in August 1831, she and her infant being in bed at the time it happened. The latter was separated from her, and was not recovered until the morning of the second day. Some persons were blown over the cliffs to which her house was adjacent, and such was judged to be the infant's fate. To this distress of mind, nakedness, and exposure, from which evils there was no escape, as all persons were in a similarly bewildered state, she clearly attributed the first cause of her ailments. This lady was almost a stranger to sensible perspiration, and the limb affected was of a dry leathery feel. She began my treatment by taking a full dose of calomel and colocynth, and a saline purgative the following morning. The latter was followed up more or less every morning, until a due effect was produced; the former dose was occasionally repeated. She began the fumigating bath, but on account of the throbbing of the head, which it increased, it was given up. The simple vapour bath was substituted with no better success.

With reluctance, on account of her fancied weakness, she was bled to ten ounces; but instead of being weakened by it, she found herself stronger, more

cheerful, and less disposed to headache. She now again tried the vapour bath, and soon resumed the sulphur fumigating bath, which she bore pleasurably to her feelings, and always producing plentiful perspiration; and towards the latter end of the treatment with perspiration from the affected limb.

She took the baths almost daily, with great diminution of the size of the limb, which gradually became softer to the feel. At the end of six weeks from her taking the fumigations with something like regularity, she became almost well, and returned to Barbadoes. She was bled a second time during the treatment to ten ounces. All the medicine she took during the time, with the exception of the purgatives named, was two or three doses of the volatile alkali daily, and rags wet with the following lotion were kept applied to the limb, over which was placed oiled silk and a roller:—

℞ Iodini, ℈j.; Potassii Iodidi, ℈ij.; Sp. Rosmarini, ℥vj.; Aq. destill. ℥x. ft. lotio.

Case III.—Col. E. was recommended to me by the lady, the subject of the last case. This gentleman was of a gouty habit, and aged about 60; he had been exposed to all the inclemencies and miseries of the aforesaid hurricane. It was followed by great indisposition, and an attack of fever and ague (so called). As he amended from this his legs and one hand began to enlarge, which, gradually increasing, brought him to me late in the autumn of 1836. There were no tubercles to be seen or felt in this case, merely the enlargement of both legs and thighs, but particularly the left, and also the left hand; and with the usual dirty hue, insensibility, and thickening of the integuments. His general health, he said, was much impaired; but even now he appeared of robust frame, tolerably good appetite, and strong pulse. He was purged and bled to twelve ounces, after which, on the 30th of October, 1836, he commenced the fumigations, which he continued with little interruption for two months. From the first this patient had plenty of perspiration from the body, and, after the first week, from the affected limbs, which gradually became softer, and smaller in size. He shortly after returned to Barbadoes well satisfied with the results he had obtained. During the time of treatment he had a second bleeding to the same amount, and all the medicine he took was the volatile alkali, and small doses of antimony, with an occasional purgative: his limbs were kept enveloped in strips of oiled silk.

Case IV.—Oct. 17, 1836.—Dr. Gordon brought to me a young gentleman, a native of Trinidad, who had come to England for medical advice, and to be educated. He was covered all over the face, body, and limbs, with elephantoid tubercles, various in size, and some few of them in a state of open ulceration. The face and limbs had the usual swollen, hard, and dusky appearance characteristic of the disease. He had been seen by Sir Henry Halford, Sir Benjamin Brodie, &c., but I believe little medical treatment had been entered on previous to his coming to me. He soon commenced the sulphuric fumigations, one every other day, and in a short time took them daily.

In the course of a fortnight, innumerable of what were hard tubercles (before the commencement of the treatment) were now in a soft state, or state of suppuration, or open ulceration; whilst those in the state of open ulceration, on his commencing the fumigations were healed, leaving cicatrices; and many others were in process of healing. The fumigations were continued, with evident progressive advantage, but to my regret I lost sight of this case doubly interesting, as he was an interesting boy of precocious abilities. With the medical treatment I had nothing to do, but was told by Dr. Gordon he was taking iodine in full doses. The same gentleman some time afterwards told me that the boy had died of brain fever; and but for this lamentable event, from the improvement which had taken place, I think the patient would have got well, by the conjoint use of iodine and the fumigations; the disease had not been of long standing, and seemed to be confined to the surface, without implication of the deeper secerning vessels.

Case V.—In the spring of 1837, Captain B., commanding a packet plying between the West India Islands, was sent to me by Dr. Henry Davies: he was the subject of elephantiasis of

the right leg and thigh, brought on by exposure to wet and other privations at sea; to this he attributed his complaint, which was of little more than a year's duration. He was otherwise in capital health, but the limb, he said, had gone on gradually increasing; and previous to its commencement he had the usual fever and ague of the tropics. This gentleman took the fumigating baths, and I believe iodine medicine, with amendment very satisfactory to Dr. Davies and myself; but from causes unknown to either of us, he discontinued his attendance. At the commencement of the treatment the limb had all the usual characteristics of elephantiasis, but which, from the softening and diminution that was taking place, seemed to promise a cure of the complaint.

Case VI.—In July 1838, a young gentleman came to England to be educated from Demerara, and was advised by Dr. Smith, of that colony, to consult me, on account of elephantiasis of the right leg, of which he was the subject, and which had been of more than two years' standing. It was supposed to be consequent of an attack of fever and ague, on the recovery from which the disease in the leg commenced, and gradually increased. There were a few tubercles on the surface of the leg; one (a large one) was to be felt deeply seated in the calf of the leg. He was rather a delicate boy, and brought with him a letter on the subject, which I shall append to this paper. I prescribed for him small doses of iodine, which were gradually increased; friction with iodine ointment was used to the leg, and he commenced taking the baths every other day; after a short period he used them daily. In ten days from the commencement of the treatment two tubercles suppurated, and which I converted into permanent issues. After twenty-four baths, and the aforesaid auxiliary means, the leg had become soft, and almost of its natural size. The baths were now discontinued; he still went on with the iodine medicine, and wore a laced stocking; the large tubercle imbedded in the calf of the leg was still to be felt, though softer and smaller; over this was applied a mercurial ammoniacal plaster. In November I considered the patient well, the issues were allowed to heal, but he was advised to take a bath occasionally when convenient.

Extract from Dr. Smith's Letter.

"Dear Sir,—The patient whose leg I reduced by means of the sulphur bath is a young man, of ——. The disease was the common swelled leg of Barbadoes, and by this name it is better understood in Europe than if you were to call it elephantiasis. It had been for four years enormously swelled, and at the instep the skin was doubled on itself like a large round pad. I was about to cut out a large portion of the skin, as I then hoped to reduce the leg by cicatrization, when it occurred to me first to try the sulphur bath. The patient was subjected to the bath, and at the end of a short period the leg had regained its natural size. Ten months have elapsed, and the leg still retains its natural size, though the patient has, during the whole of the time, been employed in full field-work.

Yours faithfully,
(Signed) —— Smith.
Demerara, 15th May, 1838."

From consideration of the preceding, I think it will appear how deserving of trial is the fumigatory method of treatment in those numerous, obstinate, and anomalous diseases, so often to be met with, and particularly in those where the innumerable minute vessels constituting the capillary system are judged to be at fault, and more particularly as this treatment aids, and is itself aided, by the conjoint use of the customary routine modes of attempting the subjugation of disease.

ON THE

FORMATION OF MOULDING TABLETS FOR FRACTURES, &c.

By Alfred Smee,
Dresser at St. Bartholomew's Hospital.

The importance of a substance that can be moulded accurately to any part of the body at a moment's notice, must be admitted by every member of the medical profession; yet many difficulties attend the formation of a composition which shall, at the period of its application, be so yielding and soft, that it may take an accurate cast of any part, and when dry, shall still retain the form given to it, and become sufficiently hard to resist external impressions, and at

the same time shall be tough, elastic, and devoid of brittleness and much flexibility; and further difficulties present themselves where the capability of its being quickly dried is required. The advantage of lightness and cheapness is also a great desideratum.

As I had frequenty noticed that the composition of gum arabic and whiting, when dry, possessed great hardness and toughness, and yet was so free from brittleness that it could scarcely be pounded in a mortar, I was determined to ascertain how far it would answer to make tablets, which might be used to form extemporaneous splints.

For this purpose a piece of coarse sheeting was copiously brushed over on one surface with a thick solution of gum, after which it was covered with a composition made by rubbing whiting with mucilage, continually adding the powder until the whole was of the consistence of a thick paste: a second piece of sheeting was now rubbed over on one side with the solution of gum, and the moistened side applied upon the composition with which the piece of sheeting had been covered, and we thus had two thicknesses of sheeting with an intervening layer of the composition of mucilage and whiting, the thickness of which may be increased or diminished as strength or lightness is desired. The whole was then dried, and formed a tablet about the thickness of slight pasteboard.

This experiment succeeded beyond my most sanguine expectations; for, whilst the tablet remained dry, it was exceedingly hard, and, when sponged over with a little warm water, became so yielding, that, by moulding it with the fingers, a cast could be taken of any part of the body. The hand and knuckles were defined with great accuracy, and I succeeded, by a little management, in taking a cast of the greater part of the face. It is sometimes advisable not to allow the substance to dry upon the part on which it is moulded; but after the depressions and elevations have been traced with the fingers, it should be carefully removed, and partially dried before the fire; and as soon as the texture is sufficiently dry to retain its shape, it may be placed near a stone, or even on the hob of a grate, without fear of corrugating or becoming otherwise deformed. In most cases, however, this drying is quite unnecessary, it being requisite only to envelop the moist tablet with a bandage. A cast thus taken is extremely hard and tenacious, so that when not much thicker than a wafer, it may be struck violently and repeatedly against any hard substance, and not be destroyed. It possessed but slight flexibility, and, after having been bent, it returned to its previous form, shewing considerable elasticity. It was neither liable to be torn nor broken; and lastly, it possessed the advantage of lightness combined with durability. Whilst in search of a moulding substance I thought it advisable to try various compositions, in order that the best might be selected, but none appeared so excellent as that last described.

A composition of powdered starch and gum was spread upon linen wetted with the solution, as in the first instance, when it afforded a good and firm tablet, but perhaps not equal to the first. A paste made with gum and flour formed a good composition; but in all cases where flour is used there is a liability to more or less contraction. A mixture of plaster of Paris and gum dried very speedily, but was apt to crack, and did not wear well.

Compositions of white of egg, with the same substances to thicken it as were used to thicken the solution of gum, were next tried, the linen cloth being first smeared over with the albumen, but none were found to answer; and it was singular that the mixture of the sulphate of lime and the white of egg had so little firmness that it fell to powder when dry.

Boiled glue and whiting formed a hard tablet, inferior, though slightly cheaper, than that first described; and its unpleasant smell would prevent its use, except in hospital or military practice.

Similar compositions of flour paste were found utterly useless, having neither consistence, cohesion, nor strength. The decoctions of the Iceland moss and linseed were found also inapplicable. The preparations of dextrine were next tried, and a mixture of carbonate of lime with the solution of dextrine made a composition which answered very well.

Of all these preparations—and many others that were tried—few were applicable, and none in all respects equal to the composition of gum and whiting, both of which substances are always easily obtained, and have the additional

advantage of cheapness. The solution of gum which was found most adapted contained 10 or 12 oz. of gum to the pint of water.

As far as regards the nature and texture of the cloth, it is to be remarked that linen is stronger than cotton, and less liable to be torn, and therefore to be preferred. Of the various kinds of linen, none moulds so perfectly as moderately coarse old sheeting; for when the tablets were made of finer Irish, they were very inferior in this respect.

The application of these tablets is rather extensive; they may be used with great advantage for all fractures of the metacarpal bones; also for those of the forearm, or even for the humerus.

When the humerus is fractured, the method which has been adopted is to cut a piece of paper somewhat into the shape of the required splint. It should cover a portion of the pectoralis major, and extend as high as the bend of the neck, and include the whole of the scapula. From this broad plate a piece descends to the bend of the elbow, and should be sufficiently wide to cover about two-thirds of the outer part of the arm. The paper is then placed on one of the prepared tablets, which is cut to a similar shape. The piece thus prepared is moistened until it becomes perfectly soft, and it is then moulded on the arm and neck. From the general shape of these parts, there will be found a superfluity of substance about the deltoid which must be pinched up and turned down, so as to form a fold over the other part. The splint then may be in a degree dried, and its inner surface lined with lint. The whole is to be enveloped with a starched roller*.

This mode of proceeding may appear tedious, but it is a source of much comfort to the patient; for whilst the upper arm is enveloped in this hard case, so that it is quite immoveable, the forearm and hand may be left loose, and the patient may in some degree enjoy the use of them. The benefit of this mode of treating fractures is not confined to the patient only: it lessens also the labour of the surgeon; for when the injured limb is once put up in this manner, it requires no further attention for days, weeks, or even till the cure is accomplished.

* The roller is merely soaked in boiled starch, and wound up in the usual manner, before it is applied.

Its application to chronic diseases of the joints will be found particularly useful. In these cases, two lateral splints are to be formed, and enveloped in a starch roller. It is hardly necessary to add, that in fractures of the lower jaw it must prove a valuable auxiliary. Great, however, as these advantages may be, perhaps they are trifling in comparison with the importance of its application to simple fractures of the leg. The mode of treating these fractures at St. Bartholomew's Hospital has been for some months the method first adopted by Mr. John Lawrence, of Brighton. His plan was to form two strong splints on either side of the injured leg, by successive layers of pieces of bandage united together by white of egg and flour. Now as far as this method is concerned, it requires no improvement, as durability, strength, and an accurate cast, are obtained by this mode of proceeding, and the numerous cases which which have been treated by it at the hospital shew its complete success. By using the tablets formed of gum and whiting upon the same plan as that of Mr. John Lawrence, a great saving of the surgeon's time is effected, and equal firmness and durability obtained.

The mode in which I have made splints for the leg, is first to obtain the exact shape by drawing a piece of sheeting or paper round the leg, and marking the part which corresponds to the tibia for the whole length of the leg, and continuing the line on the foot to the extent that it may be considered necessary to cover*. By this means, it is apparent that the exact size of the limb is obtained; but as the leg is to be enclosed by two splints, it becomes necessary to divide the cloth into two, which will give an exact pattern of either splint. These splints are to be moistened and moulded, and after being first lined with lint, or leather, the whole is to be enveloped by a roller soaked in boiled starch.

This composition of gum and whiting has answered perfectly in all the cases in which it has been tried, and splints made with it are perhaps superior to the splints made with flour and white of egg; because, when dry, they preserve accurately the shape of the

* Either splint should overlap the heel and under surface of the foot in cases where they are used immediately after the accident, but where their application is delayed, this is of no importance.

limb, and do not at all corrugate, which all compositions of flour are liable at times to do.

Fractures of the patella are treated in a similar way, a splint being placed on either side of the knee, extending from about the centre of the thigh to about the centre of the leg. The patella is not to be covered with these splints, but a gap corresponding to its shape left, and the two pieces or splints are not to meet accurately at any part, but an interval is to be left of about 3-4ths of an inch, or an inch, during their whole extent.

In enveloping these splints for fractures, they are not to be applied when there is much inflammation or swelling, but the part should be allowed first to get into a perfectly quiet state. Leeches, cold water, or poultices, should be applied, if necessary, to effect this object. In general, a delay of a week, ten days, or even sometimes three weeks, is required; but in some favourable cases there is no occasion to wait, and the splints may be applied with safety and advantage on the second or third day after the accident.

This mode has also been adopted in favourable cases of compound fracture, but most surgeons are agreed never to cover these wounds with concealing bandages.

It is not for me to expatiate upon the advantages with which this method of treating fractures is attended, for that belongs rather to Mr. John Lawrence, as the first adopter of the principle; but the fixing of the bones more firmly and securely than can be accomplished by any other method—the prevention of loss of health, by enabling the patients to walk on the fourth or fifth day after receiving the accident, and permitting them to be removed to a situation more healthy and airy—the prevention of stiff joints and the more speedy and final uniting of the bone—are advantages too great to be passed over unmentioned. These advantages are likely to be enjoyed by a greater number when the time required for the first application of the splints is diminished, and the objection is removed of allowing the limb to remain without bandages during the time required for the drying of the splints: the tablets which I have described possess these additional advantages, and with them superior cheapness is also conjoined.

Bank of England,
Feb. 9, 1839.

CRYSTALS IN THE HUMAN INTESTINES.

To the Editor of the Medical Gazette.

Sir,

My attention has been called to a communication from Sir C. Scudamore, headed "Crystalline Formation in the Bowels," contained in a recent number of your journal, in which he refers to an article which appeared in the Medical Gazette of the 24th November. Not having read the number of the Gazette of that date, I was naturally anxious to see how far it would corroborate a short paper on the subject which I had some time since communicated to the Dublin Medical Journal. On referring to it, however, I found it to be only a reprint of a portion of my paper from the latter journal; and, from the writer's name not being mentioned, it had all the appearance of an anonymous contribution. My object in publishing the case was to elicit information on a point that had attracted some attention abroad, but had been hardly noticed in these countries, which was more likely to be attained if the paper, as it appeared in your journal, had been authenticated by the writer's name.

I regret that I had not read the cases which Sir C. Scudamore has quoted from his work on Gout, or I should certainly have noticed them, as they afford additional evidence of the occasional presence of the ammoniaco-magnesian phosphate in the fæces. But I do not think he has at all invalidated the opinion I ventured to express, viz. "that the case which I have given is the first in which distinct and regular crystals have been noticed (in these countries) in the contents of the human intestines."

In Sir C. Scudamore's cases the substances discharged from the bowels do not appear to have had any regular crystalline form, as "they resembled grains of white sand." Whereas those which I met with were regular four-sided prisms, terminated by four-sided pyramids, the edges and angles of the crystals being quite perfect.

I entirely agree with Sir. C. S., that in any instance of the kind coming before us we should be cautious not to be led into error by the urine having become mixed with the alvine discharges; in the case which I have given,

however, this could not have happened, as I had removed the intestines previous to commencing the examination of their contents.

Trusting to your well-known liberality for an early insertion of the above,

I am, sir,
Your very obedient servant,
O. B. BELLINGHAM.

Dublin, Feb. 12th, 1839.

MEDICAL SCHOOL, BERLIN.

To the Editor of the Medical Gazette.

SIR,

As you were pleased on former occasions to insert in your excellent journal some account of the University of Bonn, and some notes of Berlin practice, which I sent to you, I venture now to give you the following sketch of the medical school in the University of Berlin.

I am, sir,
Your obedient servant,
J. M.

London, Feb. 16, 1839.

With the exception of Paris, there is no medical school on the continent which enjoys so high a reputation as that of Berlin, or which ranks among its professors so many distinguished men. The great superiority of the professors over those in other German Universities must be principally ascribed to the fact of their generally enjoying extensive practice, and being men of experience—not such as German professors usually are, men who read and write on disease, but have little practical knowledge of it. It must also be, in a considerable degree, attributed to the zeal of government, in using every opportunity of attracting eminent talent to the metropolis.

There are, in Berlin, two very large hospitals, the Old and the New Charité; also a smaller institution, called the Universität's Clinicum; and a Lying-in Hospital. These are the chief medical institutions; and all the most important cliniques are held in the Old Charité, which is also much the greatest establishment. At the head of the cliniques must be placed that of the veteran President Rust. The mode in which it is conducted is the following:—A patient is brought in, usually in his bed, into the centre of the operating theatre. One or two students are then called on by name, and required to discover the nature of the disease, and to propose a mode of treatment. The professor cross-questions the students on the case, and then proceeds to explain his own views regarding it. After this the patient is removed back to his ward, and it is well if the pupils can afterwards obtain any knowledge of the further progress of the case. For several years Professor Rust has not operated, and accordingly the operations in his clinique are performed by his colleague, Professor Dieffenbach, famed for his rhinoplastic dexterity. There is also a smaller surgical clinique, where the pupils are allowed to perform the minor operations, under the superintendence of Professor Von Gräfe. He, however, as well as Professor Dieffenbach, are esteemed more as operating than as general surgeons.

There are two medical cliniques*, the most important that of Dr. Wolff; the other, in which Latin is spoken, is temporarily conducted by Professor Wagner. These are the only two cliniques which correspond, in their arrangements, to the wards of English hospitals, *i. e.* which are visited every day by the physician and pupils, and where the progress of a case can be watched and studied. In them the cases are all treated by the pupils under the direction of the physician. From the small number of cases, and from the crowd of students usually present, it is difficult to learn much. The clinique of Dr. Barez for the diseases of children, is undoubtedly one of the very best in Berlin; it is well worthy of attention, as no similar institution, I believe, exists in Germany; for the diseases of children are too little studied abroad as well as at home. The arrangemants correspond nearly to those of an English dispensary, but the most interesting cases are selected, and form the subjects of clinical remarks. There are one or two small wards for in-patients, holding about thirty beds; but the out-patients, who form the great mass, are visited in their houses by the students. Here, as indeed very generally in German practice, the oil of the cod's liver is employed with the most marked success in cases of scrofula, and it is surely deserving of a fair trial in this country.

* The best medical clinique in Germany is probably that of Professor Krukenberg, in Halle.

Equally excellent is the eye clinique of Professor Jüngken. Here, also, the cases are chiefly those of out-patients, there being only two small wards which are chiefly set apart for the cases that have been operated on. The accuracy of diagnosis, and the great excellence of the clinical instructions of Professor Jüngken, are universally acknowledged. The syphilis in wards, where mercury is not used in any form, is under the direction of Professor Kluge. This clinique affords great advantages to those who are anxious to study the various forms of venereal disease. There are two obstetrical cliniques, one in the hands of Professor Kluge, the other in those of Professor Busch. There is also a clinique for cases of insanity, of which Dr. Ideler is physician.

The medical lectures are generally delivered within the University, although some (as those of Professor Mitscherlich) are given in private houses. The anatomical theatre and dissecting-rooms are in a separate building, at some distance from the University, and by no means remarkable for the excellence of their arrangements. The celebrated Professor Müller lectures in winter on anatomy, and in summer on physiology; and here it may not be out of place to remark, that attendance on the whole course of anatomy costs two louis-d'ors, while, for as much more, he is supplied with abundance of subjects for dissection; the whole course, with dissections, thus costing 3*l.* 8*s.* Notwithstanding the excellence of his lectures, it is to be regretted that Professor Müller does not use the aid of diagrams, which are of great assistance, especially to beginners.

On materia medica, the lectures are those of the famous botanist Sink, of Osann, of Schultz, and of Mitscherlich*, brother of the chemist.

Almost all the lecturers on the different branches of medicine are hospital physicians, and it is unnecessary to particularize them; but perhaps the lectures of Professor Romberg deserve special notice. Among the private courses, or "*privatissima*," as they are termed, there are three which deserve the attention of every stranger who makes a stay in Berlin; and in no other place, probably, are courses of the same kind and of equal excellence to be found. They are Jüngken's eye, and Dieffenbach's plastic operations, and Schlemm's course of all the common operations of surgery. With lectures on more general subjects, Berlin is very well supplied. Mitscherlich and Rose lecture on chemistry, Sink and Kemth on botany, Ehrenberg on the physiology of the infusoria, Rose and Weiss on mineralogy, and Von Dechen on geology.

The German system of clinical instruction appears to every stranger to be very good, so far as it goes, and affords many advantages to the beginner, but by the more advanced student the want of real hospital practice is severely felt*; nevertheless, it admits of little doubt, that our medical schools might be improved by the partial introduction of the German system.

For Germans, it is necessary to have studied in a gymnasium until they are declared ripe for the university, and then to have studied medicine in a university for four years, in order to obtain the degree of M.D. This degree is nowhere held in high repute, and is chiefly viewed as a preliminary to the "staats examen," which must be undergone before a license to practise can be obtained in Prussia, or in most other states. This last examination is usually extended through several months. The candidate is first examined in anatomy, and required to make a preparation of some part of the body; he is next examined in surgery, and is called on to perform some operations on the dead body. After separate examinations in the different branches of medicine, he has to treat the case of an out and of an in-patient at the hospital, and it is only after passing through these ordeals that he is allowed to practise. The stranger will not find the same liberality in admission to the cliniques of Berlin which he meets with in London; and it is often necessary for him to ask the leave of a professor, before he can be admitted to a particular ward.

It might be a curious inquiry to ascertain what are the causes of the present state of medical literature in Germany; why there is such a want

* Dr. Mitscherlich has lately commenced the publication of a System of Materia Medica, likely to prove of great value.

* There seems to be no good reason why this great defect might not be remedied, by throwing open the greater part of the wards of the Old Charité to the students.

of good works on medicine and surgery, along with such an abundance of excellent books on anatomy, physiology, and materia medica. Three causes suggest themselves. 1st, the theoretical and generally unpractical turn of the German mind; 2d, the want of public hospitals managed as in England; and 3d, what appears to be far the most important cause, the mode of appointment of professors in the German Universities. The aspirant to a professorship commences his career by obtaining leave to lecture under the name of "*privatim docens.*" His object is to obtain some name as soon as possible, in order to secure early promotion to a professorship. This he can most readily do by writing something; and, whether the individual has had experience in his profession or not, he writes his book. In anatomy and physiology, where every one has the means of making new observations, this is very well; but in medicine and surgery it has the most prejudicial effects. The same evil continues after the *privatim docens* has attained the rank of professor, when it is a matter of profit to him to have his system of medicine as a hand-book for his class. The general result of this is, that for practical improvements in medicine Germany has always to look to England and France, although it is not meant to be denied that from time to time works of great practical value appear. English books on medicine are much read in Germany, and all books, whether good or worthless, are immediately on their appearance translated into German, and you see Johnson's Course of Human Life, and Curtis on the Ear, on the same table with Stokes on the Chest, or Copland's Dictionary.

Among the theories influencing German practice, perhaps none has so much weight as one which has of late years come much into fashion, and which attributes the origin of most diseases to be in the abdomen. By this phrase are meant all the abdominal affections to which many of middle age are especially disposed. The German professor examines the internal surface of the under eyelid, sees that the vessels have a congested and venous aspect, and immediately exclaims that the cause is some abdominal obstruction. This doctrine seems to be taking the place of that which attributed so much to suppressed secretion, and to checking the perspiration of the feet in particular.

MEDICAL GAZETTE.

Saturday, February 23, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

INCARCERATION OF THE SANE IN LUNATIC ASYLUMS.

ACCORDING to the Roman law, a notorious spendthrift might be put under guardianship; and in Scotland a man who from drunkenness or any other cause is liable to be stripped of his property, may put himself under the care of trustees, without whose sanction no act of his is valid. Again, in the state of New York, as we learn from Beck, there is a statute which places the property of habitual drunkards under the care of the chancellor. When the overseers of the poor find that any one is a drunkard by habit, they may apply to the chancellor; and if the person considers himself aggrieved, he may demand a jury of six freeholders to investigate his case. In England we have none of these provisions to protect the extravagant or the intemperate against themselves; and a practice has in consequence sprung up, which we cannot refrain from stigmatizing as unjust upon the face of it, and open to the most shameful abuse—the practice, we mean, of shutting up persons in madhouses who shew no symptom of insanity, but for whom seclusion is thought desirable by their friends. In some of these cases the sanity of the patient is openly avowed by the very practitioners who sign the certificate; in others it is obvious to the impartial bystander, though the doctors may take a little more pains to reconcile their certificate with the stubborn fact. Let us refer to a few examples.

Dr. Uwins, in his Treatise on Insanity, makes mention of a patient whom he incarcerated in an asylum at Peckham, because if he were let out "he would be immediately running to ta-

verns, and running up bills, which he would leave to be settled by his poor mother and brother, who are already half ruined by his half-mad and half-criminal conduct. I tell this man, in reply to his petitions for release, that he has only to choose between a madhouse and a jail, in the event of his liberation; but there might be some question as to the propriety of not giving him that choice, had he not been sent to us unequivocally insane, and had he not forfeited his promises of steadiness by his conduct during a probationary release."

Here we have *quod accusatori est maximè optandum, confitentem reum.* The false pretence is frankly avowed; the man had been insane, but was cured, and was sent to Peckham again, because his gay, tavern-haunting habits, were inconvenient to his family. The thing really required, by which justice and convenience might have been made to harmonize, was a guardian after the Roman fashion, who would have limited his tavern bills, and proscribed Tokay and *pâtés de Perigord.* If this man was fairly imprisoned, the Commissioners of the Insolvent Debtors' Court might send half their petitioners to a madhouse, and fill Peckham instead of the Fleet. More frequently, of course, the case is reported by some bystander, instead of the signers of the certificate, and hence becomes less clear than the one given by Dr. Uwins. Thus Dr. Gaitskell, in his work on Mental Derangement, mentions the case of a lady whom he was attending for a disease of the skin, while writing his book. She had been discharged from a lunatic asylum, two years before, by the College Commissioners, after having been confined in it five years by her husband, who was living with another woman. The lady was rather weak in her intellects; but by no means so much so as to justify her confinement; on the ontrary, she brought up her children with credit, until her husband became fascinated with a woman of superior attractions, and took advantage of the extreme facility with which patients could be thrust into asylums. It is probable that in this instance there was nothing about the lady which could justify a certificate of insanity, but that the husband contrived to persuade some facile practitioners that she was weak, and that a few months' seclusion would make her strong.

A most inexplicable case of this kind was gone through on the 28th of January, at the Kensington Petty Sessions, and which has more immediately directed our attention to the subject. A young man, named Mundy, was brought from the Kensington workhouse, to be sent with the sanction of the magistrates to the Lunatic Asylum at Hanwell, the only obstacle being that there was no symptom of insanity about him. The cures at Hanwell have often been vaunted, but they may easily be accounted for, if many Mundys are confined there. The evidence against Mundy consisted of the opinion of his mother and the Board of Guardians, witnesses who did not make their appearance, and whose reported fancies must necessarily go for nothing. The mother complained, it seems, that Mundy would lie in bed all day; he stated, that even when he had sat up till three or four in the morning, he never lay longer than ten. Can authors, reviewers, *et hoc genus omne*, say as much for themselves? He was also accused of alarming the whole neighbourhood, and being "quite a marked character." On this, Mr. Barlow, the sitting magistrate, observed:—"You do not call these proofs of insanity? They are only eccentricities. How did he behave in the workhouse?"

Mr. Wright, the Union surgeon, answers:—"Oh! very quiet. I have seen him daily; but with the exception of his always asking me to allow him to

go out, I have observed nothing particular in him."

On one occasion poor Mundy succeeded in escaping from the workhouse, and betook himself to the house of his uncle, a chinaman, in the Broadway, Hammersmith, who was in great consternatiod at seeing him, and straightway sent for two men and a strait-waistcoat. What a scene for Cruickshank! Imagine the portly but timid man of cups retiring from the proffered hand of his lie-a-bed nephew, and, forgetful of his situation, retreating upon a stand of crockery, and sharing its irremediable fall!

Mundy gave so plain and sensible an account of himself, that Mr. Barlow was convinced of his sanity, but, unluckily, Sir J. S. Lillie now entered, and, on the nature of the application being explained to him, the following matchless bit of dialogue took place :—

Sir J. S. Lillie.—"Well, we have only to sign the order. Ours is quite a ministerial act."

Mr. Barlow.—"But, before doing so, it is necessary we should have some evidence of his insanity; and Mr. Wright appears unwilling to sign the certificate."

Sir J. S. Lillie (to Mundy).—"Why do you object to go to Hanwell? You will be very kindly treated there. I think it is a great proof of insanity your not liking to go there."

Mundy.—"Restraint does not do for me. I wish for my liberty, and it is my desire to go abroad as a missionary. Should I be liberated, I doubt not the Rev. Mr. Broad, who has visited me weekly in the workhouse, would enable me to go."

Sir J. S. Lillie.—"I think you had better go to Hanwell."

Mundy.—"Before I am sent there, there ought, in my opinion, to be the opinion of more than one physician that it is necessary. You have not now even the opinion of one doctor."

Sir J. S. Lillie's theory, that the not liking to go to Hanwell is a great proof of insanity, is very rich indeed. It forms one of those pleasant dilemmas on one or other horn of which every body must be transfixed. Thus, when it is proposed by any kind relation that you should go to Hanwell, if you acquiesce, why then *volenti non injuria;* indeed you are mad by your own confession. If you demur, "it is a great proof of your insanity, your not liking to go there."

This should be called Lillie's dilemma, and would go far towards turning all Middlesex into one vast Hanwell. Mr. Wright, however, had his scruples, and shrunk from signing the certificate. He said that it was worded rather strongly, but that if the word *insane* was used instead of *unsound mind*, he should, perhaps, not object. Sir J. S. Lillie thought that *unsound mind* was not so strong an expression as *insane;* Mr. Barlow thought the reverse; but the unfortunate Mundy reaped no advantage from this disagreement of his judges, for Mr. Wright was soon persuaded into signing the certificate, and the magistrates having added their names, the sentence of imprisonment was completed*.

This is certainly the most remarkable case of the kind we have seen recorded; and we may add, that though in the following number of the *Spectator* there is a letter from Sir J. S. Lillie rebutting the insinuation of his being a proprietor of the asylum at Hanwell, he says not a word as to the sanity of Mundy.

Will any one interfere to obtain his liberation, or must we coincide in the sombre picture drawn by a learned contemporary, of the difficulty of getting out of a lunatic asylum, however absurd may have been the putting in?

"We know this to be a correct picture, not of the best managed private asylums, but of the worst managed asylums of England in the present day.

* Spectator, Feb. 2, 1839.

We know, too, that into such asylums nervous patients may be sent, any day, with a regular certificate, or without one; without one properly signed, or with one signed by medical men called in merely to sign it. When once so imprisoned, all appeals for a time are vain. If the visiting physician is written to, he declines to act; if the magistrates, they make a pompous, formal, useless inquiry; if the Lord Chancellor, he has no control in the case; if the Metropolitan Commissioners, they order an investigation, which the magistrates can render as insignificant and useless as their first inquiry."—(*Brit. and For. Med. Rev.*, vol. v., p. 71—2.)

The next and last case which we shall quote is given by Dr. Mayo, in his late work on the Pathology of the Human Mind.

A boy, aged 16, was described by his father as being selfish, wayward, and savagely violent towards his relations. His violence, indeed, had not been confined to them, and it was easy to see that he was unfavourably situated, as his relations were at once irritable and affectionate. Dr. Mayo thought that although the young man could not be considered insane in any accredited use of the term, yet that no school would do him so much good as a madhouse. He was accordingly sent to one for fourteen months, where the inflexible restraint taught him habits of self-control, and he came out almost reformed. The question naturally arises, whether the power of sending sane but unruly children to a madhouse, under cover of a certificate of insanity, is not likely to be abused? We should answer in the affirmative; and we must add the painful conviction which has forced itself upon our mind, that there are too many cases where the practitioner signs the certificate, not from any symptoms of insanity manifested during his examination of the patient, but solely in accordance with the representations of his family.

CORONERSHIP FOR MIDDLESEX.

The contest for the Coronership for Middlesex has terminated in favour of Mr. Wakley, and the fact of our having been, and still being, so much opposed to him in our opinions on many points, shall not prevent us from expressing our belief that this appointment will be of advantage to the members of our profession. An example is thus set, which we trust will be followed elsewhere, by the election of medical men to future vacancies, while in the district of the new coroner we have no doubt of practitioners obtaining that remuneration for their services, which, we regret to know, they have hitherto, in many places, too frequently failed to obtain.

ROYAL COLLEGE OF SURGEONS.

St. Valentine's Day, 1839.

Mr. Stanley's Hunterian Oration.

The theatre of this institution was crowded with members, and a numerous company of visitors distinguished in the church, the law, and the state, attended on this occasion of celebrating the memory of the greatest of physiologists. Mr. Stanley, universally esteemed as an eminent practical surgeon and a most amiable man, and trained up, moreover, in the school of Abernethy to appreciate justly the genius of John Hunter, was chosen by the Council to deliver the anniversary eulogy for this year. The orator discharged his duty in a most pleasing and effective manner, and was listened to with profound attention. He stated, that the purport of this annual oration was not to celebrate the memory of a man of extraordinary mental vigour merely, who represented the scientific knowledge of his age, and whose high faculties were directed with the most unceasing industry to the amelioration of his fellow men, but of one who might be said to have created the science of surgery, and who, by his multitudinous physiological discoveries, had most clearly interpreted many of the enigmata of the animal economy. But Hunter's actual discoveries, great as they were, were scarcely comparable, he said, in point of importance, with the beautiful exemplars of investigation which the records of his researches supply. To preserve the memory of so great a benefactor to mankind was not only right as a mark of gratitude for his services, but political, as tending to keep up from age to age an active spirit of inquiry. The causes of the decline of knowledge at different epochs were not easily accounted for, but it was the unequivocal duty of the philanthropist to supply every motive for its perpetuation.

The College of Surgeons, in this commemoration, did but imitate their brethren, the physicians, who had instituted an annual oration in memory of their immortal Harvey, the author of the greatest single discovery ever made in physiology. It was the fault of the present day to undervalue the amount of knowledge transmitted to us from our forefathers, and to think too little of the great ingenuity and labour employed by the investigators of former days, in bringing to light truths which, because now as familiar as household words, were held in no account. Mr. Stanley said he should not attempt to supply any anecdotes of Mr. Hunter. They constituted a subject which had been exhausted in the twenty-four antecedent orations; but he should make a few observations on the history of medicine and surgery previous and subsequent to the time of that great man, which he intended to have the effect of throwing into strong relief his rare merit.

It was difficult to say what circumstances had been most conducive to the progress of the healing art; it had epochs of prosperity in periods of peace and in periods of war, and its decadence was equally unaccountable on many occasions. It appeared, from certain Sankrit books recently translated, that the Hindus had made great advances in medicine and surgery, at a period long preceding European civilization. These documents shewed that this nation possessed not less than 127 highly-finished instruments of surgery; that they were acquainted with the most refined therapeutical principles known in the present day; but above all, that they were actuated in their intercourse with their patients and with each other, by the purest morality and the most refined etiquette. What the causes have been from which the great declension of this art amongst Orientals has arisen, it is not known; but the Hindus of the present day are totally ignorant of the art as possessed by their ancestors.

To dive deep into extreme antiquity, in search of the glimmering knowledge formerly extant on professional subjects, was not within Mr. Stanley's purpose. Yet he would say, that the exertions which were made to acquire anatomical knowledge in those early times were deserving of our respect and imitation. Men were found who dared to dissect the human body when detection would have led to certain death. In the time of Galen, so difficult was the attainment of anatomy, that he travelled from Italy to Alexandria for the sake of seeing a human skeleton. All the means which that great man possessed of acquiring the extensive and comparatively accurate materials which he transmitted in his writings to posterity, were acquired by the casual inspection of unconnected human bones, of bodies drowned and found putrescent on the river banks, or by the dissection of animals. To Galen, indeed, we owe a heavy debt of gratitude. After this great philosopher's death, anatomy was totally neglected till the commencement of the fifteenth century, when the spirit of liberty engendered in the Italian republics, promoted a general desire for knowledge; and the frequent wars waged by those powers created a demand for medical and surgical skill. Amongst the cultivators of anatomy and surgery in Italy, Andrew Vesalius was unequalled by his zeal and the force of his genius. Contemning the prejudices and superstition of his age, he boldly dissected the human body, and, at the early age of 25, published a treatise abounding with most accurate anatomical description, and the most profound and just physiological speculations. A panegyrist of this dauntless inquirer truly stated that he was unsurpassed by any in the vigour and originality of his powers. Not Copernicus in astronomy—not Galileo in mathematics—not Columbus in geography—have more advanced their respective sciences than did Vesalius the science of anatomy. Fallopius, in his writings, gives a graphic account of the impediments which the anatomist had to surmount at that period. In order to possess themselves of bodies, they were compelled to degrade themselves into executioners. At Pavia, the Prince gave the condemned criminals to the professors, whom, says Fallopius, *nostro modo interfecimus*. He gives an account of the killing of one criminal; a process which must have been exceedingly repulsive to every rightly constituted mind. "The man was subject," quoth he, "to ague, and we determined to kill him with opium. We gave him two drachms of opium when the cold fit was on; it produced no effect. We gave him a second dose, of the same amount, during the paroxysm, also without effect. At this time the criminal besought us, that if he survived the third dose we would intercede in his favour with the Prince; but the third dose was given in an interval between the fits, and proved fatal." Such, said the lecturer, were the degrading circumstances under which the study of anatomy was pursued after the revival of learning in Europe. Is not our highest gratitude due to those who did not scruple, for the sake of science, to submit themselves to the revolting conditions? In Italy also flourished Fabricus ab Aquapendente, the discoverer of the lesser circulation, and the tutor of our own illustrious Harvey. Italy at this time contained many excellent schools of medicine, to which students flocked from France and

Spain, Britain and Germany. By these, seminaries were subsequently formed in their respective countries, and a knowledge of the healing art was thus extensively diffused.

The 18th century was prolific in eminent medical men. In 1725, whilst Haller was a student at Leyden, under Boerhaave, Albinus taught anatomy in the same university. Ruysch was at Amsterdam, Winslow in Paris, and Cheselden in London. At the same period, Morgagni and Valsalva kept up the reputation of Italy.

The speaker now drew slight sketches of these professional worthies; the likenesses of whom were not very striking; but all complaint on this head must cease when it is recollected that even the Mantuan bard, with all his powers of invention, was occasionally driven to the iteration of "*fortemque Gyam fortemque Cloanthum.*" In the middle of the same century, continued Mr. Stanley, flourished the two Hunters, Hewson, and Cruickshanks, whose researches entirely changed the face of physiology, and established the identity of medicine and surgery. The influence of these great men was not totally confined to this country. In 1784, Scarpa, the pupil of Morgagni, came to England, and studied under Mr. Shelden, by whom he was introduced to the great physiologists just named, whose prelections he attended, and the effect of whose instructions were visible in his subsequent works. But, generally speaking, the influence of Hunter was only beginning to be felt on the continent. The augmented facilities of intercourse between nations, which the mechanical improvements of our time afforded, would speedily diffuse his fame, and the benefits arising from his labours, throughout the world.

To Hunter's discoveries is to be ascribed, according to Mr. S., the application of physiology to medicine. The great discovery of Harvey produced no effect on the practice of physicians. It was objected to by casuists, on the ground of its utter uselessness; and he himself did not argue for its applicability to any medical purpose. The train of his investigations (which occupied nine years of his life before he had satisfied his own mind of the truth of his system), is, however, a model of systematic investigation. Sydenham, whose plan of investigating disease is considered as the best example by physicians, paid no regard to the discovery of Harvey. His relations of disease were simple descriptions of the symptoms, without any theorizing—a method suggested to him by his friend Locke.

Forty-five years have elapsed since the death of Hunter, and the benefits which have accrued to mankind are incalculable. It was customary, said Mr. Stanley, to celebrate the mighty deeds of kings and conquerors, by raising columns, and thereon inscribing their achievements. But on the monument of Hunter much more glorious inscriptions might be sculptured, viz. records of the comforts and happiness, which he directly or indirectly had been the means of imparting to myriads of his fellow-men. To form an accurate idea of the effect of Hunter's labours on the practice of the healing art, it was merely necessary to compare the practice of medicine and surgery before and after his time. To him was due the tying the arteries at a distance from the aneurism, and all the good consequences flowing from the principle involved. To him the improved treatment, and all the enlightened views now entertained regarding the nature of inflammation was due.

The principles of Hunter were vindicated and carried out by his illustrious pupil, Abernethy, whose pleasing eloquence was effectively employed in diffusing among his numerous pupils a sound and physiological surgery. Percival Pott, the cotemporary of Hunter, was distinguished by the elegance of his operative skill; but, unfortunately, his ignorance of physiology prevented his renderiug such services to the art of surgery as, had he lived after instead of at the same time with Hunter, he would most probably have effected. The frequency of operations performed in the time of Pott, compared with their rarity now, show how merely mechanical were the surgical principles of Pott.

The exposition of the true nature of inflammation made by John Hunter, has led to an improved analysis and a new classification of diseases. How contrasted to the surgery of the present day was the practice of Wiseman, an exceedingly acute and inventive man. The very same remedies which that eminent surgeon employed in diseases of the joints, are in vogue at this day; but he, through his ignorance of the pathological principles since promulgated by Hunter, applied them without discrimination.

The interests of medicine and surgery were maintained in Italy, during the eighteenth century, by Morgagni, who published his admirable work, *De Sedibus et Causis Morborum;* and Scarpa's Researches into the Nature and Treatment of Hernia, as well as into the Functions of the Nerves, subsequently vindicated the professional reputation of his country. In France, the establishment of the Academy of Surgery by Louis XV. had an important influence in promoting the advancement of this important art. This body wrested from the physicians of France their exclusive privilege of teaching anatomy. They formed a systematic plan of improving surgery, from which resulted their in-

valuable "Memoirs." In imitation of Cymon, who made philosophy attractive at Athens, by planting the "Academus," the Academy of Surgery erected a handsome and convenient mansion, in which the study of anatomy could be conducted consistently with the health and comfort of the student.

The facilitated intercourse now established amongst nations had the effect of combining the scientific men of all countries into one great community, whose chief object was the improvement and extension of the department of knowledge which formed their common pursuit. By this means, a hint thrown out in one country is ripened into a discovery in another, and the multiplication of inquiring minds permit no hint, however obscure, throughout the whole extent of literature, to sink into oblivion. Even the crude suggestions of extreme antiquity have been examined and weighed, and subjected to the concentrated analysis of powerful intellects, have proved the *nuclei* of future discoveries. The important application of auscultation to diseases of the chest, effected by the candid and ingenious Laennec, he acknowledged to have matured from a suggestion thrown out by Hippocrates. The operation revived by Stromeyer was contemplated by Morgagni, and the principle upon which it is founded is illustrated by a preparation of Mr. Hunter, now extant in the College Museum. The idea of what is now named the excito-motory organs, was familiar to Glisson. The fibrous and tubular structure of the teeth was not unknown to Liewenhoeck. The greatest improvement in modern surgery, lithotripsy, is said to have been practised by Ammonius. The surgeon-general of Ireland, Sir Philip Crampton, had recently discovered, in the State Paper Office, the record of a case in which the Lord Deputy, Sir Henry Sidney, being affected with a stone, had it broken up into fragments in his bladder, whence it was expelled in the stream of urine. Scarcely twenty-two years have elapsed since we received, with incredulity, the account of Colonel Martin having relieved himself of a large calculus, by introducing through the urethra a cat-gut, at the end of which was attached a watch spring, and by the friction of which the calculus was worn away; and when the fact could not be denied, it was said that no surgeon could employ the same means, because he could not fix the stone, within a few years, however, through the labours of Leroy, of Heurteloup, and others, the most powerful and formidable of the operations was supplanted by a comparatively easy and safer process.

Mr. Stanley now gave a graphic description of the danger and sufferings of the calculous patient, and contrasted his condition with that of one subjected to the lithotriptic process. He paid an elegant tribute to the memory of Mr. Abernethy, who possessed in a pre-eminent degree the art of exciting the enthusism of his pupils. Of the late Mr. Thomas Blizard, who left an extensive practice in the vigour of life, in obedience to the dictates of private sorrow, he spoke in glowing terms, applying to him the panegyric of Hippocrates, περι Ἰητροῦ Ἰητρος γαρ Φιλοσοφος ἰσοθεος, &c. He commented upon the munificent donation of Mr. Swan to the Museum, and which consisted of all the valuable dissections and preparations of the nerves made by that skilful and laborious anatomist.

In conclusion, Mr. Stanley dwelt upon the importance of cultivating literature, and the sciences collateral to medicine. It was upon the general attainments of the medical man that his social respectability chiefly depended. All classes of mankind were now ardent in the pursuit of knowledge. It became, therefore, the cultivator of the healing art, who had ever been in the van of discovery, not to fall into the rear, but to maintain his ancient pre-eminence.

ROYAL MEDICAL AND CHIRURGICAL SOCIEY.

February 12, 1839.

The President in the Chair

A case of Fracture of the Coracoid Process of the Scapula, with partial Dislocation of the Humerus forwards, and Fracture of the Acromion process and of the Clavicle. By John F. South, Assistant-Surgeon to St. Thomas's Hospital.

The author was induced to lay this case before the Society, as from being verified by dissection, it is adequate to remove those doubts which have been often entertained of the occurrence of such an accident as fracture of the coracoid process. The author saw the patient about an hour after he had fallen from a scaffold thirty feet high. In addition to the injury of the shoulder, he had a wound over the coronal suture, with surrounding contusion, but no evidence of fracture, or injury to the brain, though blood streamed freely from the left ear. There was also extensive injury to the elbow-joint, with fracture of the olecranon. From a careful examination of the shoulder-joint, the author was led to the conclusion that the humerus was dislocated under the clavicle of the same kind, though not to the same extent as the so-called dislocation under the pectoral mus-

cle. The dislocated head of the humerus was replaced by lifting the neck outwards with the thumb, and rotating the arm, and its replacement was indicated by a grating sound. After four days, the patient having died from his several injuries, the author had an opportunity of examining the shoulder, of the appearances of which he gives the following account:—"On turning back the integuments, a small quantity of effused blood was found on the front of the shoulder; and to my surprise, a fracture of the clavicle about a third of its length from the acromial extremity, with, however, but little displacement."

"The acromion was broken at the usual place, about an inch from its extremity, but not at all displaced, as the periosteum had not been lacerated. The coracoid process was found broken about half an inch from its tip into two unequal pieces, the smaller of which remained connected above, with a piece of the triangular ligament still attached to the acromion, and below to the short head of the biceps muscle, which had pulled it down as far as the ligament would allow. This muscle was torn from the coraco-brachialis about an inch, and to the top of the conjoined tendon of the latter, and of the lesser pectoral muscle, was attached the larger portion of the broken coracoid process," &c.

The author, in conclusion, makes some observations on the partial dislocation of the humerus, which he conceives can only take place in conjunction with fracture of the coracoid process.

An account of a Fœtus of seven months with its Placenta adherent to the Nævus occupying the Scalp and Dura Mater. By Robert Lee, M.D. F.R.S.

The fœtus whose malformation forms the subject of the present memoir was sent to the author by Mr. William Highmore, of Sherborne. Immediately on its arrival in London, a drawing was made of the malformed head, by Mr. Perry, which was presented to the Society in illustration of the description contained in this paper. The vessels of the fœtus and placenta having been minutely injected, the integuments of the head were divided from ear to ear, and the dura mater was found in immediate contact with the skin, all the bones of the vault of the cranium being wanting. The scalp and dura mater on the upper part of the head were almost wholly occupied by a great plexus of dilated arteries and veins, filled with injection resembling nævus. The brain and its immediate envelopes were healthy. The placenta was united to the forehead by a band three-quarters of an inch in breadth, and one and a half inch in length, composed of the amnion and chorion. Into this band the membranes of the brain were protruded through an opening as large as a finger's point. Although the author feels it to be impossible to fix exactly the period when the adhesion of the placenta to the head of the fœtus took place, he thinks it probable that the umbilical cord and band must have been formed about the same time, and at a very early period of the ovum, when the amnion and embryo were in contact, and before the end of the fifth week from the time of conception.—The paper concludes with a recital of some of the more remarkable cases which have been recorded of adhesion of the placenta to the head and body of the fœtus.

WESTMINSTER MEDICAL SOCIETY.

February 16, 1839.

Dr. Chowne, President.

A Case of patulous Foramen Ovale undetected till the occurrence of Peripneumony.—Dr. Addison's Address on the Sources, Nature, and morbid Consequences of Malaria.

Dr. Golding Bird related to the Society a case of recent occurrence, in which a child ten months old, apparently in perfect health, fell ill. The medical attendant thought that the head was the seat of disease, and treated the little patient accordingly. After a time the patient became blue, and ultimately expired. There was no cough or dyspnœa, but headache and other symptoms of cerebral derangement were prominent. An autopsy after death exhibited no lesion in the brain or its meninges, but both lungs were found inflamed, and the foramen ovale open. Dr. Bird thought this instance of patulous foramen ovale analogous to the case related by him to the Society a few weeks since, in which the foramen was unclosed for some years without affecting the colour of the person.

Dr. Addison did not consider this case parallel with the case formerly brought before the Society by Dr. Bird. He believed that in this instance the foramen ovale of the child was closed at the onset of the disease, but that during the *engorgement* of the right side of the heart, which always occurs in pneumonia, the auricle was distended with blood, and the recent adhesion of the valve broken through. It was not uncommon for head symptoms to accompany severe affections of the lungs, and it required much vigilance on the part of the practitioner to determine whether both or either of these organs were affected,

and which of the two was the primary seat of the malady.

Dr. C. J. B. Williams concurred with Dr. Addison in thinking that disease of the lungs might be marked by prominent head symptoms, but a serious disease of the lungs could not exist without affording sure and unambiguous auscultatic indications of its nature. It was a custom with him, when children were brought to him with cerebral symptoms, or suffering from convulsions, to apply his ear to the chest, and he had frequently found this precaution of great use.

Mr. Roderick was of opinion that affections of the head and lungs were frequently concurrent, though probably independent of each other. He had recently inspected the body of a man at Guy's, who had died of apoplexy. He was a patient of Dr. Addison. A large clot of blood was found to occupy the greater part of the right corpus striatum. The right lung was found hepatized, and an effusion of serum was present in the pleura.

Dr. Addison said he recollected the case, which was remarkable on several accounts. He was not aware that disease of the lungs existed; the patient, when admitted, was moribund. The clot of extravasated blood was found in the corpus striatum of the *left*, and not of the *right* side, and the right side was consequently hemiplegic. The patient was a stout, hale man. Previous to the apoplectic attack, he had not been conscious of any falling off of his health. On the morning of his attack he ate a hearty breakfast, and went out to his work as usual. About noon he suddenly fell down senseless, and he was brought to the hospital hemiplegic. He shortly became perfectly apoplectic. He was comatose, and had stertorous breathing. He was perfectly insensible, and could not be roused by any effort to any thing like consciousness. But whenever his shirt collar was unbuttoned, he invariably raised his left hand to button it. It would appear from this, that some remnant of intelligence existed. This effect was probably owing to the pressure not being exerted upon the upper part of the hemispheres; for in that case the insensibility would have been complete.

Dr. C. J. B. Williams thought that the case partly related by Dr. Addison and partly by Mr. Roderick might justly be considered as originally a case of neglected peripneumony. The inflammation was allowed to march on unchecked in the lung, congestion would in succession occur, the red hepatization would also be established, and the brain would become consecutively and consequently affected,

Dr. Chowne now exhibited to the Society a preparation in which fissures were evident in the skin of a child, arising apparently from the absence of the rete mucosum. The mother of this child was walking on the ice when pregnant; the ice cracked under her feet, and she became excessively alarmed. She went her full period of utero-gestation, and brought forth a child marked in the manner described. She immediately considered the marks as likenesses of the cracks in the ice. Dr. Chowne said he had visited the museum at Guy's Hospital, and examined the fœtus described at the previous meeting of the Society, and said to resemble a clown in full dress. The red stripes he (Dr. C.) thought were the effect of deficient development, and perfectly parallel to the specimen which was then exhibited to the Society.

The President now invited Dr. Addison to deliver his promised address on malaria, and that gentleman immediately began.

The term *malaria*, he said, was very indefinite: it was of Italian origin, and meant simply bad air. It was imported from the Hesperian peninsula, probably because that portion of Europe held an unhappy pre-eminence as regards the insalubrity of its soil. The nature of the poisons which imparted to particular atmospheres their unwholesome character, was not yet satisfactorily proved. Amongst the old writers, many fantastic theories were broached, but to examine them would be a waste of time. The most common malaria—that of marsh miasma—had greatly occupied the attention of our native physicians and chemists. The fens of Lincolnshire, Cambridgeshire, and Norfolk, had a bad celebrity in these islands, and had afforded copious opportunities of investigating the properties of the vitiated atmosphere. The marsh miasma appeared to possess no sensible properties whatever, and the chemists had not been able, with their most searching reagents, to detect any known substance suspended in it. Dr. Bird conjectured that a sesquicarburetted hydrogen was diffused through the atmosphere, and maintained in solution some unknown matter which constituted the morbific cause. The malaria of marshes furnished the type of all others; but different localities would supply different *solvends* which would diversify the effects produced on the human constitution. The most authentic records, and the testimony of the most accurate observers, proved that three circumstances always preceded the formation of malaria—viz. heat, moisture, and putrescent vegetable matter. He did not mention animal matter, as that was always present in putrescent vegetables. In what way these circumstances operated

upon the air he did not pretend to say. The process might give out an extremely subtle substance, eluding our present means of analysis, and which might act through the surfaces of the skin and of the lungs; or it might produce some altered relation in the particles of the atmosphere, the effect of which was in some unknown way detrimental to animal life. He had heard with surprise of a recent attempt made by Mr. Hopkins, of Manchester, to revive a defunct theory, which ascribed the morbid effects of malaria to a superabundant quantity of elastic watery vapour suspended in the air. Wherever this vapour was in great quantity the dew point would be high, and consequently the evaporation from the human body, (which Mr. Hopkins regarded, and justly, as a most important excrementitious function), was suspended or impeded. Hence, Mr. Hopkins thought would naturally proceed the multiform effects of miasmatic influence. He (Dr. A.) could not concur in this view of Mr. Hopkins, for cogent reasons. If such a theory were true, the surface of running streams, and the face of the ocean, would be charged with a deleterious power—a supposition totally repugnant to fact. Dr. Ferguson, in a very able work relating to the diseases of our army in the Spanish peninsula, had started a theory just the contrary of that advocated by Mr. Hopkins. It was this, that the operation of malaria was most energetic in the absence of water. This theory he (Dr. A.) considered as inconsistent with truth as the former. Dr. Ferguson's facts and Dr. Ferguson's reasons were constantly militating against each other. Upon the whole, he (Dr. A.) thought the old established theory best, that the action of heat and moisture upon decaying vegetable matter vitiated the strata of the atmosphere, which successively lay in contact with the evaporating surface; that these strata, as they became charged with elastic vapour and its characteristic *solvend*, ascended by their own levity, but were ultimately condensed, and falling with the dew, again formed the respiratory medium of animal life.

As an apology for undertaking the exposition of so extensive a subject as malaria, Dr. Addison pleaded the fact, that for the last twenty-two years he had been intimately connected with Guy's Hospital, whereof the number of out-patients averaged annually fifty thousand. These patients were chiefly inhabitants of the river side, and they came from various distances, from Chatham, from Gravesend, from Woolwich, Greenwich, Deptford, Rotherhithe, Bermondsey, and Bankside—neighbourhoods in which the supply of miasma was most extensive. Amongst these, *ague* was of course a common affection, but other types of fever also were very general.

In the autopsies which he had made, in cases of intermittent fever, he had never detected any effect on structure, except simple hypertrophy of the spleen, or of the liver. In cases in which the "hobnail liver," and the "granulated liver" were present, the patient was always proved to have been of intemperate habits. Practitioners resident in marshy districts were constantly meeting with every degree and variety of disorder of the primæ viæ, accruing from the operation of miasma, from simple dyspepsia to the most severe bilious fevers, or even dysentery; and unaccompanied by any symptom of an intermittent character. In the vast horde of cases which the river side was perpetually sending forth, synochus and typhus were of frequent occurrence, and these frequently ran their course, and were followed when the patients were convalescent, by well-defined agues. He had recently had a case of maculated fever from that neighbourhood; the patient recovered, but fell immediately afterwards into an ague fit. The causes which modified these affections resided in the habits, temperament, and idiosyncrasy of the patient. The late Dr. Armstrong, who was gifted with a brilliant imagination, used to assert that all fevers were identical, but he (Dr. A.) could not join in this view, but rather considered the type of the disease to arise from its etiology—from the *circumfusa* or *injesta*. The banks of the Thames, however, were not the only sources of malaria in this town. There were many unwholesome localities, such as the New Cut, the neighbourhoods of the Borough, and Lambeth, Westminster, Pimlico, and the valleys and low grounds upon which the metropolitan mass of bricks and mortar rested. The carelessness of medical men, and the heedless ignorance of the public regarding the sources of malaria, were illustrated hourly by the condition of the by-streets and lanes, where immense quantities of putrescent animal and vegetable fragments were left exposed, to poison the atmosphere. It was almost miraculous that the population of this great city was not swept away by some terrific epidemic, when we considered the immense amount of mephitic exhalation which was perpetually distending the atmosphere. He thought that if any PALLADIUM could be discovered, potent for the salvation of the city, it would be found in the shape of a SCAVENGER.

The localities chosen for the houses of the aristocracy, indicated the same ignorance of, and inattention to the presence of malaria. Sir Robert Peel and the Duke

of Buccleugh had houses overlooking the river side, placed there as if on purpose to inhale the pestiferous effluvia emanating from the extensive plain of mud, which was always visible between high and low water-mark. What could be more ridiculous, also, than the position of the Duke of Northumberland's house, one aspect of which was open to all the mephitic vapours of the Thames mud, whilst all ingress to the wholesome air of the North and West was carefully debarred by a screen. But pre-eminent in salubrity as in dignity was the palace of the Queen! Who could walk along Piccadilly early in the evening, and look down into the hole where the New Palace was situated, without being convinced that it was just such a site as Dante would have chosen for his Inferno. The observer sees the building involved in mist, as if under the influence of a malignant enchanter; while the very lamps flitter like evil spirits. He (Dr. A.) had often walked along the Mall in the Park on a frosty day, and whilst the atmosphere all around was perfectly bright and clear, he had observed the fatal canopy of mephitic mist hovering over the Palace. The whole neighbourhood of Westminster, from the palace to the river, was highly miasmatic; and within the previous week, out of *five* patients resident in that vicinity, who had consulted him, *three* had proved instances of intermittent fever.

If he were called upon to account for the comparative immunity of the rich, he should ascribe it to their more migratory habits, and to the greater supply of stimulants and comforts which they enjoyed. But even the rich were not so exempt from the ill effects of miasma as was generally imagined; he saw every day instances of the morbific power of miasmatic poison. People came to him complaining of languor, and continued inability to exert themselves. These he found to be generally pallid, with a sallow discoloration of the temples. Others, men as well as women, were completely chlorotic and anæmial. It is true that these affections are removable at an early stage by such simple means as change of air and purgatives; but if neglected, they induced the severer forms of fever, such as were exhibited amongst the poorer classes, who were unremittingly exposed to those insalubrious influences. Dr. Addison concluded by stating that his object had been merely to attract attention to the important subject, and to elicit discussion, which the sound judgment and extensive knowledge of many of the members would render highly profitable.

Dr. James Johnson paid an elaborate compliment to Dr. Addison, and said that his friend Dr. Ferguson had stated nothing inconsistent with the views of Dr. Addison. What Dr. Ferguson had said was, that when the rivers were low, the miasma was most malignant, because the putrescent matter lay exposed to the influence of the stagnant moisture and the torrid sun. When the rivers were full, and rushed on with the force of a torrent, it was obvious the putrid vapour had no time to give out malaria. As this important subject required one full evening, if not two, for its adequate discussion, he should at once move the adjournment of the Society.

IDIOS.

Mr. Snow wishes us to make the following correction in our report of what he said last week:—

"What I said, after some other remarks, was, that though I did not believe in attraction of the capillaries, or spontaneous motion of the globules of blood, I thought there was probably some cause assisting in the circulation with which we are yet unacquainted."

PHYSICAL SOCIETY, GUY'S HOSPITAL.

Feb. 9, 1839.

DR. BARLOW IN THE CHAIR.

Case of Sudden Death, with some discussion as to its cause.

MR. GREENWOOD read a case of sudden death, with observations. Mr. G. prefaced this case by stating, that its peculiar interest consisted in the same class of symptoms which caused death, having been remarked in a prior attack, and a post-mortem examination being allowed after the fatal seizure. The case, as related by Mr. G., is as follows:—

Mrs. S., residing in Bermondsey Street, has enjoyed good health, and is the mother of a large family. On the 6th October, 1838, I was called to her at 4 A.M., and found her in a state of insensibility; she moaned incessantly; face pallid and covered with moisture; breathing extremely difficult, and but little air was taken in at each inspiration. The mucous rattle was distinctly heard, much mucus being apparently thrown out into the bronchial tubes and cells; there was no effort to cough; the pulse was somewhat quick and weak. Her husband stated that

she had awakened him complaining of difficulty of breathing, jumped out of bed, ran to the window, which she managed to raise, and then fell back senseless. I bled her to the extent of sixteen or twenty ounces, having but little hope, however, of doing much good. A blister was ordered to the chest; and a mixture, consisting of equal parts of ipecacuanha wine and water, was ordered to be exhibited in drachm doses every half hour. No alleviation of symptoms succeeded the bleeding. At 7 o'clock the patient's symptoms were unaltered. At 11 A.M., on calling, I was much surprised to observe symptoms of general amendment. The pulse was slower and fuller, and the countenance and respiration were improved. The mucous rattle, however, was still observable, and the patient to all appearance was unconscious of surrounding objects*. At 2 P.M. the patient was perfectly relieved, the râle had disappeared, she could cough and expectorate, and was in a condition to give an account of herself. I now learned that she had had a similar attack (but less violent), on the previous Sunday night, after taking an egg for supper. On recovering from this attack the patient began her usual avocations, and remained well till the 24th of November following, when I was called to her at 1 o'clock A.M., and on my arrival found her quite dead. She had awakened her husband as before, complaining of dyspnœa, and before even a candle could be procured she expired. The post-mortem examination took place 20 hours after death. On opening the chest carefully, the convexity of the diaphragm was observed to be pushed up into the chest to the highest possible point, and there firmly retained. The heart was raised to the horizontal position, and it appeared impossible that the lungs could have been inflated. There were old adhesions of the lungs at their upper part on each side, but to no great extent. There was a small quantity of fluid in the cavities of the pleura. The lungs were crepitant throughout. The heart was empty; the pulmonary veins and the venæ cavæ were gorged with blood of a dark colour. The left ventricle was concentrically hypertrophied, but no other disease existed in the organ. On examining the abdomen, the liver was found enormously enlarged; it extended downwards into the right iliac region; on the left side it extended so far as to cover a large portion of the spleen, and nearly concealed the whole of the stomach, notwithstanding the enormous distension of that organ. The intestines were much distended with flatus, excepting the ascending colon and the transverse arch. The cæcum was enormously distended, and had passed from its natural situation into a pouch of the abdominal integuments, which was observed at and below the umbilicus. The abdominal viscera generally appeared healthy, and even the liver was of the natural consistency and colour, notwithstanding its enormous size. Mr. Greenwood, at the conclusion of the case, expressed his conviction that death had been the result of pressure upwards into the chest of the diaphragm, and the consequent displacement of the heart, and interference with the functions of the lungs. The probable correctness of this view was supported by Drs. Ashwell, Truman, and Bird, and cases in support of such position were quoted by the two latter gentlemen.

Mr. Bacon considered it probable that the distension and displacement should rather be considered as exciting causes which brought into play the evils consequent on a diseased condition of the heart.

In answer to a question from Dr. Hughes, Mr. Greenwood stated that the patient had never shewn any signs of diseased heart during life, but could run up and down stairs with facility, and use exertion without inordinate loss of breath.

Dr. Ridge considered it probable that death had been the result of spasm produced in the pulmonary contractile tissue, or possibly of spasm of the glottis, sympathetically produced by irritation of the pneumogastric nerve.

Mr. Blenkorne agreed with Dr. Ridge; he related symptoms as observed in his own person, when labouring under dyspepsia, and expressed his conviction that the gases occasionally evolved in the intestines acted on the heart as sedatives.

The President related the case of a child, to whom he had been called, in which case death appeared to have been caused by over-distension of the stomach by arrow-root.

Thanks having been proposed to Mr. Greenwood for his interesting communication, the Society adjourned to February 23d, when Dr. Bird will make some observations on the pathology of death by charcoal vapour. Mr. Hilton in the chair*.

* Mr. Greenwood subsequently learned from the patient that she was quite aware of his presence when he first called, but could not move or express herself in any way. She said, when he bled her, she felt as if a string had been cut which confined her heart.

* In last report (Dr. Hughes's paper), for *fibrous*, read *fibrinous*.

SWALLOWING PINS AND NEEDLES.

THE following is the medico-legal question arising from the case published in our last number—namely, that which relates to the importance of the injuries which may be caused by pins and needles entering the stomach. Dupuytren expresses himself on this subject as follows:—

"I have seen at the Hôtel Dieu, a considerable number of women and children afflicted with this mania, and suffering under the same symptoms. The most remarkable of these cases was one of a woman, who, in consequence of swallowing an incredible number of pins and needles, had become frightfully thin, and was obliged to keep quite still in bed, from the acute pain which was caused, on the slightest motion, by the needles and pins, which made their way out from every part of her skin. I opened more than a hundred collections of pus in this woman, at the bottom of which I always found one or two needles or pins. On the surface of this unfortunate person's body there were always fifty or sixty abscesses or tumors caused by the presence of as many of these foreign bodies; which, when added to the number of those which nature was not yet strong enough to drive towards the skin, formed a fearful sum total. It is easy to see that if the presence of a single one of these foreign bodies makes motion difficult and painful, so great a number must bring on a general debility, continued fever, and fatal marasmus; and, in fact, the woman of whom I am speaking died in a hectic state. When her body was opened, several hundred pins and needles were found spread throughout the various organs, the limbs, the cellular tissue, und the muscles; in short, in every part of the body. (Dupuytren, *Blessures par armes de guerie*, t. ier, p. 82.)

We see that Dupuytren is far from thinking that a great number of needles or pins can be swallowed harmlessly. Yet there are facts which prove, as Dr. Ollivier says, that these pointed bodies may pass from the alimentary canal into the neighbouring organs by gently penetrating the tissures, and at length creeping towards the surface of the body without causing any serious symptoms. Every one knows, for instance, the history of the girl at Copenhagen who had a passion for swallowing needles, and in whom a number of points were observed in the skin, giving exit to these instruments.

In other instances these bodies become enveloped in mucus, slip into the bowels, and make their way out by the anus, as in the case of Fournereau.

"Foreign bodies," says Boyer, "when long, thin, and pointed, such as needles and pins, sometimes traverse the stomach or intestines, and reach the liver or mesentery. But most frequently they pass without causing pain or inflammation, and appear under the skin in parts more or less distant from the alimentary passages. Lastly, foreign bodies have been known to traverse the intestines, enter the bladder, and pass out of the urethra with the urine."—(Boyer, *Malad. chir.* t. vii. p. 198)

Still more surprising cases might be cited:—"An officer afflicted with a suicidal mania pushed one of those long black pins, known under the name of curling pins, into the region of the heart. It penetrated the pericardium, reached the heart, and remained there, without causing any symptoms, during a period which could not be ascertained. There was nothing to indicate its presence during life. The pin was not found till after the death of the officer, which he inflicted on himself in a different way.—(Dupuytren, *op. cit.* p. 79.)

Although it is true that the introduction of needles and pins is not always followed by serious symptoms, yet we must not make this a general rule. Science has not hitherto afforded a sufficient number of facts to allow us to decide the question so absolutely as Dr. Ollivier has thought himself justified in doing; we do not blame his judgment in the case above given, where we are entirely of his opinion, but we do not side with him as to the general harmlessness of the accident in question. We have just seen that Dupuytren thought it a very serious one, and his opinion was based upon experience.

When a needle or pin sticks in the upper part of the œsophagus, or in the pharynx, it may cause violent symptoms of suffocation. We once saw a woman who fell into frightful convulsions from having pushed a needle, which was accidentally contained in the bread she was eating, into the velum palati. In the Memoirs of the Academy of Surgery there is a case of suffocation occurring in a child from the presence of a pin which had pierced the larynx transversely. Fabricius Hildanus saw death occur in consequence of a small body, pointed like a pin, sticking in the œsophagus. During deglutition, therefore, pins and needles may stick in the upper part of the pharynx, and cause serious symptoms. We once saw a young and robust man, who died at the Hôtel-Dieu, under Dupuytren's

care, in consequence of an abscess caused by a bone sticking in the pharynx.

It follows from the preceding facts, that when one or more pins have been swallowed, we can never tell *à priori* what will be the consequence; there are examples both of recovery and of death.

Let us now suppose that a physician is called in the moment the accident has happened, or soon after, the needles or pins being in the stomach; what ought he to do? Hear Portal:—

"I saw a young man, who, during a drinking bout, challenged his companions to swallow a part of his glass; he broke the fragments of his glass with his teeth, and then swallowed them; but not with impunity. He was soon seized with frightful cardialgia; convulsive movements came on, and fears were entertained for the life of this giddy-headed young fellow, when his friends came for me. I first had him bled; but as the principal object of the treatment was to extract the glass which caused the symptoms, I was much embarrassed as to the means of doing so. On the one hand, I saw that tartar emetic would increase the irritation and contraction of the stomach, and that the glass would get more closely into its parietes; on the other hand, purgatives would drive the glass into the intestinal canal, the long extended surfaces of which would probably become excoriated. I thought it right, therefore, to advise the patient to fill his stomach with some food which might serve as a recipient to the glass, and then to produce vomiting. Some cabbages were procured and boiled; the patient ate a considerable quantity of them, and I then gave him two grains of tartar emetic in a glass of water. The patient soon vomited, and threw up a considerable quantity of glass among the cabbage. He subsequently took a good deal of milk, was put into a bath, and had some emollient clysters; and as he had become very lean, in spite of these methodical aids, I advised him to drink asses' milk, which he did for more than a month, and which restored him to his former state of health." (*Portal; Observations sur les noyés, les asphyxiés*, &c.; 6e édit. p. 410. Paris, 1787.)—*Gazette des Hôpitaux*, November 20, 1838.

[The reader will find several cases in which pins were swallowed, and one in which needles were extracted from the leg, in the first volume of the MEDICAL GAZETTE. In the same volume, p. 355, the case of the Copenhagen girl (mentioned in the present article), is said to have been an imposture.—TRANSLATOR.]

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, February 21.

Henry Taynton, Westerham, Kent.—Arthur Burstall, Hull.—William Henry Rogers, Shrewsbury.—Frederick Smith Garlick, Halifax, Yorkshire.—George Gill, Liverpool.—William Holstead Greenwood Buckley, Todmorden, Lancashire.—Alexander Campbell, Gloucester.—James Dalvey, Brompton, Gillingham, Kent.—Joseph Hodgson, Hebden Bridge, near Halifax, Yorkshire.—Joseph Ashton, Stalybridge, Manchester.—John Bathew, Manchester.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *Feb.* 19, 1839.

Age and Debility	24	Hooping Cough	1
Apoplexy	6	Inflammation	15
Asthma	8	Bowels & Stomach	2
Cancer	1	Brain	1
Consumption	36	Lungs and Pleura	9
Convulsions	25	Liver, diseased	3
Croup	1	Measles	2
Dentition	7	Mortification	1
Diarrhœa	2	Paralysis	4
Dropsy	7	Small-pox	7
Dropsy in the Brain	8	Sore Throat and Quinsey	2
Dropsy in the Chest	1	Tumor	1
Erysipelas	1	Unknown Causes	53
Fever	10		
Fever, Scarlet	5	Casualties	3
Fever, Typhus	2		
Heart, diseased	2		

Decrease of Burials, as compared with the preceding week . . . 34

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

February.	THERMOMETER.	BAROMETER.
Thursday . 7	from 40 to 52	30·17 to 30·16
Friday . . 8	45 53	30·18 30·20
Saturday . 9	46 52	30·20 30·23
Sunday . . 10	37 47	30·32 30·38
Monday . . 11	28 45	30·33 30 28
Tuesday . . 12	36 49	30·21 30·14
Wednesday 13	30 47	30·33 30·32
Thursday . 14	from 36 to 53	30·00 to 29·86
Friday . . . 15	30 38	29·97 29·90
Saturday . 16	38 47	29·80 29 70
Sunday . . 17	29 47	29·42 29·40
Monday . . 18	28 39	29·43 29 42
Tuesday . 19	22 40	29·47 29·50
Wednesday 20	34 37	29·44 29·80

Winds, S.W. and N.W.

Except the 10th, 13th, and 15th, generally cloudy, with frequent showers of rain; snow and hail on the 17th and morning of the 18th.

Rain fallen, ·3125 of an inch.

CHARLES HENRY ADAMS.

ERRATA.—P. 749, c. 2, note, l. 7, for 'at,' read 'from;' and 2d note, for 'contact,' read 'contents.' P. 751, c. 1, l. 47, for 'cavities,' read 'convexities;' c. 2, l. 26, for 'radiatory,' read 'radiating;' and in note, for 'Echimus,' read 'Echinus.'—P. 752, c. 2, l. 38, for 'Havernan,' read 'Haversian.'—P. 753, c. 1, l. 53, for 'long,' read 'bony;' and c. 2, l. 13, for 'Haller,' read 'Müller.'

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THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, MARCH 2, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

Pathology of Urinary Diseases in general.

Water certainly exerts very obvious agencies upon the sensible and mechanical properties of bodies, even in the mineral or inorganic kingdom. I can very easily illustrate this fact. In this jar you see a solution of bichloride of mercury; to it I add a solution of caustic potass, and you see a yellow precipitate, the binoxide of mercury, falls down. This oxide may also be obtained by the slow oxidation of mercury effected by its lengthened exposure to a temperature of about 600° Fah., with access of atmospheric air. Here is some binoxide prepared by this latter process, and you see very sensible differences; the first has a yellow colour, and an apparent amorphous form; the other is a bright red, and the form scaly and somewhat crystalline. This difference appears to be owing to the water in the chemical constitution of the first, forming a hydrate of the binoxide; for when this water has been nearly expelled by drying, it approaches much nearer in its sensible characters to the binoxide prepared by heat, as you will observe by comparing this dried specimen with the other two. Arsenic furnishes a no less remarkable instance of the influence of water upon the sensible characters of bodies. Arsenious acid, as you know, consists of one equivalent of arsenic and one and a half of oxygen; but there are two varieties—the one transparent, the other opaque. In these specimens you may perceive their differences. The transparent is somewhat of an ambery appearance, and gives free transmission to the rays of light; the other rather resembles a piece of enamel, and does not allow the passage of a single ray. The specific gravity of this—the transparent variety—according to Phillips is 3·715; of the same, when opaque, 3·260; and this diminution of specific gravity, as well as the opacity, he conceives to depend upon the absorption of water from the atmosphere—an opinion I feel satisfied, for reasons which I shall not now stop to examine, well founded. The solubility, too, of these two varieties is very different; the transparent variety yielding to a given quantity of water—1000 parts; after thirty-six hours' maceration, 9·6 parts; and to the same menstruum, when boiling, 97 parts; retaining only 18 in solution after cooling; whereas the opaque variety, under similar circumstances, yields, in the first case, 12·5 parts, and in the second 115 parts, 29 parts remaining in solution after the cooling of the menstruum. As a final illustration, I may allude to the agency of water upon potass. We cannot obtain potass in crystals from its solution in water; nor is this because the potass is incapable of assuming the crystalline form; for I have shewn you already very beautiful crystals of potass which separated from its solution in alcohol. But while it destroys the crystallizing properties of some bodies, it seems essential, and in large proportions too, to that of others. The salts of soda will furnish you with a familiar example. Here are specimens of crystallized carbonate and sulphate of soda: they are transparent, and beautifully crystalline. Here you see portions of the identical speci-

mens, subjected only to exposure to a warm atmosphere, and you see they have become opaque, amorphous, or powdery, externally, where they have parted with their water: in a word, they have effloresced. But if we break a mass, or dissolve the external opaque covering, we shall find the internal portion, which probably has not yet parted with all its water, transparent and crystalline; as you see proves to be the case.

From these facts, and from many others that could be adduced, there is good reason to believe that water exerts a very important and peculiar modifying influence upon the sensible and mechanical properties, and even the chemical ones, of bodies. Hence sugar is not considered a triple, but a binary compound, of which carbon forms one element, and water the other, and therefore it is a hydrate of carbon.

When we consider that albumen is a very extensive and a very abundant principle of animal bodies, and that it has access to every organ and to every tissue, even to the ultimate and most delicate structure of these, we can be at no loss to conceive how, by the special agencies of the parts themselves, every principle which albumen is capable of affording may be evolved either proximately or remotely. We shall now construct and present a tabular view of the atomic constitution of the principal matters in the urine; and we shall thus have an opportunity of estimating the possibility of the conversion of organic products into each other.

Atomic Composition.

Principles.	N.	C.	H.	O.	eq.
Urea	2	2	4	2	60
Lithic acid	5	4	4	3	122
Xanthic (lithic) oxide	5	4	4	2	74
Cystic oxide (cystine)	1	3	6	4	70
Lithate of ammonia	6	4	7	3	139
Cyanogen	1	2	0	0	26
Cyanic acid	1	2	0	1	34
Cyanate of ammonia	2	2	3	1	51
Carbonic acid	0	1	0	2	22
Carbonate of ammonia	1	1	3	2	39
Oxalic acid (anhydr.)	0	2	0	3	36

If we contrast the atomic constitution of the different principles, as set forth in the foregoing table, we can have little difficulty in admitting the conversion of these principles into each other. If, for instance, with Dr. Willis, we set out from urea, and suppose the proportions of hydrogen and nitrogen reduced, while those of the carbon and oxygen are increased, the formation of lithic acid would be the result. Again, he says, if we suppose the nitrogen, carbon, and hydrogen, to remain as in the lithic acid, but that this principle parts with an atom of oxygen, we shall have the elementary constitution of the lithic or oxanthic oxide. An increase in the relative proportions of the hydrogen and oxygen, while the carbon and nitrogen are diminished, cystine or cystic oxide would be the result. Carbonate of ammonia, too, another of the quaternary compounds of the urine, is readily explicable upon chemical principles. Take from urea the elements of one atom of water, and we have cyanate of ammonia. By comparing the atomic constitution of urea with that of carbonate of ammonia, as in the table, we can have no great difficulty in understanding how carbonate of ammonia may be evolved. When cyanate of ammonia and water react upon each other, carbonate of ammonia results. Urea also may and has been formed artificially, by the mutual reaction of cyanic acid, ammonia, and water, upon each other; as, for instance, by the decomposition of cyanate of silver by hydrochlorate of ammonia, or of cyanate of lead by a solution of ammonia. As, in this latter case, oxide of lead precipitates, it might be supposed that cyanate would be produced; but the filtered fluid, when evaporated, affords quadrangular crystals which yield no ammonia by the action of potass, nor do they precipitate solutions of lead nor of silver, as is the case with the soluble cyanates; and therefore urea must have been artificially formed. If the nitrogen and hydrogen separate from the carbon and oxygen, and that these latter should unite the former nearly in the proportion in which it occurs in lithic acid, the latter as in the cystic oxide, we should have the elementary composition of oxalic acid. These views might be extended much further, but enough has been stated to render the subject sufficiently intelligible for our future progress *.

* On Urinary Diseases, p. 104.

Of Urinary Diseases in General, and their Arrangement.

We always find that it conduces much to facilitate the acquirement of knowledge, especially in complex subjects, to arrange the objects of our investigation in some intelligible order. In this consists what is termed logical arrangement or classification. Classification I therefore define, such an arrangement of the objects of our investigation *as that they shall follow in intelligible succession, and be associated according to their natural relations and affinities.* If we could always so arrange the objects of our study, our acquirement of knowledge would be much more rapid; but this, however, is very seldom attainable, and in no instance, perhaps, except the exact sciences, or rather the mathematics. I therefore find it very difficult so to arrange the present subject as that each subject shall be naturally consecutive to the preceding. Arrangements of this sort, in relation to diseases, is termed nosology. Diseases are found to have certain symptoms or characters in common, and others which are specially characteristic or distinctive. Diseases which present a certain number of symptoms in common, are grouped together and form a class. Of the individuals in the class, some are found to have a certain number of symptoms peculiar to themselves; these are grouped together separately, and form what are named the orders of the class. Next succeed genera, *species* or *individuals*, and the varieties of these.

When we come to apply the above principles of classification to the arrangement of urinary diseases, we find great difficulty in making any thing like an arrangement consistent with these principles. The reason of this is, that these diseases present but little in common, and what they do belongs equally to other diseases, between which and the urinary affection there is no other analogy. Therefore each disease may be considered almost as a separate and independent subject, and possessing but few or no analogies which would enable us to associate them in groups, or classes and orders, possessing certain general characters in common. These characters, of course, would be purely functional; and were we to adopt an arrangement founded on such principles, we should associate together diseases very dissimilar in their essential characters, and also requiring very different modes of treatment.

But still it will be necessary to bring them under review individually, and for this purpose it will be necessary to adopt some method, however inconsistent with strict nosological principles. The objects of nosology, as already stated, are to facilitate a knowledge of diseases; but our knowledge of the conditions in urinary affections is attained upon such *peculiar* principles, that we shall experience no great inconvenience from any defect of nosological method.

Dr. Prout makes three general divisions of urinary affections; namely, functional, mechanical, and organic. The *functional* comprehends all those diseases which arise from a deranged operation of the kidneys.

The *mechanical* includes all those arising from the mechanical irritation of solid foreign bodies, as calculi, &c., in the kidneys, bladder, or the passages from them.

Organic includes the effects or consequences of disorganization of some portion of the urinary organs.

These three classes, in a practical point of view, may be reduced to two, because the second necessarily implies the previous existence of the first; for there could be no mechanical irritation, unless a deranged action of the urinary organs had previously given origin to the cause—the formation and growth of a calculus. Therefore perhaps it will be necessary to make but two divisions—*functional* and *organic* *—and to comprehend all the diseases of the urinary system under these two general heads. The first, therefore, will comprehend all those affections in which the general or healthy properties of the urine are materially altered, which will form the first division or head: the second will include calculous affections.

Most of the diseases we have to consider first are attended with an unnatural or increased flow of urine; that is to say, a greater quantity is voided than in health. This increased discharge is accomplished either by the discharge of large quantities of urine at more distant intervals, or by the very frequent discharge of smaller quantities. This condition, without reference to peculiarities, may be named generally *diuresis*, of which several varieties may be enumerated. Thus, the watery portion is sometimes, as already observed, in excess greatly beyond the natural quantity, and this either with or without an absolute deficiency of the saline principles. This is simple diuresis †. But there is another form, in which not only the water but the solid matters are absolutely increased, as when the diuresis is attended

* The acceptation of this term is not strictly logical. Every disease involving a cognizable change of anatomical character is strictly an organic disease. It therefore applies equally to inflammations and all other affections attended with obvious or sensible anatomical alterations. In this sense organic disease is not necessarily irremediable; but it is generally used to denote an irremediable change, more correctly expressed by the term *disorganization*, which implies for the most part an incurable condition.

† Hydruria of Willis.

with an excess of urea—the *morbus innominatus** of Prout; diuresis urcosa†.

We also found that the urine, in similar cases, contained principles foreign to the normal constitution, and that chyle, albumen, and sugar, were also found in this fluid. These morbid conditions are mostly attended with diuresis, and therefore their consideration may very properly be attempted in this place; and hence we find diuresis chylosa, diuresis serosa or albuminosa, and the saccharine, or diabetes. The urine, also, in many cases, seems milky or opalescent. Here is a specimen, which I shew you now because it is not always to be obtained. It has stood for forty-eight hours, and although you see a copious white deposit, yet there is no clear transparent supernatant fluid; but it still remains opalescent. It is easily recognized by its remaining turbid after the action of an acid or an alkali, which shews that the turbidness does not depend upon either the lithic or phosphatic deposits. We shall now, however, proceed to consider the affections already noticed individually.

Diuresis simplex.—An increased flow of urine may arise from many and various accidental causes, which, acting either through the system or upon the kidneys specially, may give rise to an increased flow of urine. Thus, an indulgence in copious potations, exposure to cold air, without sufficient clothing, and various nervous affections—as, for instance, hysteria, spasm, &c.—are connected with a temporary diuresis. But in such cases the diuresis is transient, and disappears spontaneously, as the operation of the cause, which is but temporary, ceases. The disease, however, under consideration, is much more uniform in the phenomena, and much more permanent in its duration. There is generally a considerable, and indeed sometimes, insatiable thirst; the skin dry and harsh; and generally a somewhat feverish, or irritable state of system. The pulse is usually quick and irritable, and frequently thready. The bowels in many cases are regular, though more frequently rather inclined to be costive. The quantity of drink consumed by patients of this description is sometimes enormous, and thirty or forty pounds of urine have been passed daily by such patients.

The characters of the urine are peculiar; in its sensible properties it seems scarcely to differ from clear spring water; it is in many cases nearly devoid of both taste and smell; and its sp. gr., which very little exceeds that of spring water, proves the deficiency of the saline principles. The specific gravity of this urine varies; sometimes scarcely exceeding 1·002, then again rising to 1·020 or 1·025.

It is a question whether there be an absolute or only relative deficiency of saline matter*. There certainly seems occasionally to be a real deficiency; but I believe, generally speaking, this is only apparent or relative, because, upon evaporation, a sufficiency of the solid matters may be detected.

Urea is said to be deficient in some cases of diuresis; and this has been by some considered and described as a specific disease†; but I have not met with a sufficient number of satisfactory and unequivocal cases to warrant such an admission. Indeed, if the deazotising effects of the formation of urea be essential to the purification of the blood, I cannot well conceive the possibility of the existence of such a disease, with so little disturbance of the general health as is occasionally observed to be compatible with the disease; and, indeed, when the urine is less copious, and its specific gravity, in consequence, proportionally higher, we find the urea in its natural proportion, or even in excess. There are, however, instances in which urea seems to be deficient, or almost wholly absent; but this occurs in distinct forms of disease, and in which an equivalent for urea is found in sufficient quantity, and which, probably, is nothing more than this principle decomposed, and its elements re-arranged. Dr. Prout has shewn that urea is composed of the elements of carbonate of ammonia and water; and hence it is readily converted into these by the action of a variety of substances, as by the fixed alkalies and alkaline earths, as you have already seen demonstrated. Now in diuresis I frequently find the urine abounding in carbonate of ammonia. In this specimen, which you see, the patient passes about eight or ten pints daily: the specific gravity is 1006·7. On evaporation scarcely any urea can be separated; but you see, on adding a little hydrochloric or acetic acid, and agitating well in a phial, there is an active effervescence; this is easily shewn to be carbonic acid. I shall not, therefore, deem it necessary to consider a deficiency of urea as a specific form; and, indeed, Dr. Willis, in his very accurate description of what he names *Anazoturia*, rather confirms the views which I have taken. "This

* Azoturia.—Willis.

† There is a great advantage in expressing diseases concisely and explicitly, and, when possible, in single terms. Dr. Willis, in adopting a nomenclature of this sort, has set a good example. Hydruria, anazoturia, and azoturia, are all single terms, derivatives from the Greek, and express "watery urine," "urine with deficiency of urea," "urine with excess of urea"—this being the type of the anazotizing process of the kidneys.

* Of course including urea.

† See Dr. Willis's Treatise, p. 11, *Anazoturia*.

urine," he says, "did not differ in appearance from common water; it was quite limpid, absolutely colourless, all but free from odour, and neutral when passed. It became in the slightest possible degree opalescent, or milky, after standing ten or twelve hours. In specific gravity it corresponded as nearly as possible with distilled water. At first I even thought it lighter; but this was from trying it with a new hydrometer, the scale of which I immediately discovered to be set a degree too low. Brought to the boiling point it let fall no precipitate, a few bubbles of air (probably carbonic acid gas) being disengaged. No effect followed the addition of a solution of oxalic acid. Caustic potass caused the subsidence of a few flocculi; 1000 grains, evaporated slowly, left but a fraction of a grain of residue, which appeared to consist entirely of mucus, lithate of ammonia, and the phosphatic salts; but it must also have contained a small quantity of urea and colouring matter, for the urine, kept during two days in a temperature of about 65° Fah., became very faintly ammoniacal. The quantity of residue I had to deal with was too small to enable me to speak with greater detail*."

The urea wanting in this case might be accounted for by conversion into carbonate of ammonia. Indeed, the characters very closely resemble those of phosphatic urine, especially in young subjects. In such cases lithate of ammonia, or carbonate of lime calculi, are found; and they are for the most part attended with diuresis.

Such cases have often been confounded with diabetes, especially the diabetes insipidus; and the pale amber colour of the urine serves only to confirm the error. The only means of detecting the nature of the complaint is by the chemical examination of the urine. This will always enable us to determine the nature of the case; or, at least, it will prevent us from confounding the nature of such cases.

Causes.—The causes of this affection have been already stated in a general way. Any thing that tends to increase the watery portion of the blood will give rise to diuresis, for the kidneys are the usual outlets through which an inundated condition of the blood is removed. They who indulge in excessive potations of fermented liquors, and of spirits and water, are always found to pass large quantities of urine, frequently watery. There is no irregularity or intemperance which more effectually gives rise to a disposition of this sort than a free indulgence in the use of gin. The lower orders in this metropolis carry this abuse to an almost incredible extent, and hence they are almost invariably sufferers from this, as well as many other forms of urinary disorders. I have been informed, also, that the epicures in this sort of indulgence have the spirit prepared in various ways, by the addition of articles which increase the mischief. The preparation of gin consists in mixing the spirit as at first obtained with various essential oils, by which a flavour and taste suitable or agreeable to the palates of those for whom it is prepared are given. Perhaps the worst and most injurious of these artificial adulterations is turpentine; and which is used, I have been given to understand, to a considerable extent in the manufacture of British gin. To hide the disagreeable taste and flavour of the turpentine, the essential oils are found necessary; and they are the cause of the milkiness observed in many of the inferior specimens of gin on dilution with water, which, uniting with the spirit, the oil is set free, and the liquid thus rendered turbid and milky. There is a still more pernicious manufacture of this description, in which the deleterious agency of gin is greatly increased. This consists in mixing it with beer. And there is further a beverage termed "purl," in which the diuretic effects of the gin are augmented by the addition of broom and some other vegetable diuretics.

Another mode of inducing diuresis, especially in young subjects, is a too free indulgence in the use of acids, as, for instance, vinegar, the citric and tartaric acids. I have repeatedly witnessed an habitual diuresis from such abuses. Many, especially females, make use of vinegar to a very great extent, and indeed drink it in excessive quantities—some from a morbid appetite; others, more especially the same class, from a preconceived notion that it bestows a delicacy and fairness of complexion*; which they are most anxious to attain. This not only leads to diuresis, but if persevered in, to still more formidable diseases.

Another cause is, the immoderate use of alkaline salts, especially those constituted of the carbonic, or of some vegetable acid. An immoderate use of soda water, and also what are termed Seidlitz powders, is frequently attended with diuresis, often followed by infinitely more serious consequences. The carbonated and the bicarbonated alkalies, even with considerable excess of carbonic acid, are not only diure-

* On Urinary Diseases, &c. p. 13.

* Dr. Paris says, in his work on Diet, that a tea-spoonful or table-spoonful of vinegar, administered to poultry shortly before killing them, renders the flesh white and delicate. Perhaps the observance of this has led to the abuse above noticed.

tic, but render the urine alkaline, a condition which renders it highly irritating to the bladder; and yet, perhaps, there is not a more popular, or extensive abuse of remedies, than an inconsiderate use of soda water and Seidlitz powders. In the Seidlitz powder we have the Rochelle salts—the potassio-tartrate of soda—namely, the two caustic alkalies combined with tartaric acid, in neutral proportions. When the draught is prepared, the salt is dissolved in water, with a proportion of carbonate of soda, to which the saturating proportion of tartaric acid is added; and the whole, largely diluted with water, is swallowed in a state of effervescence.

It has been already shewn, that many of the vegetable or destructible acids are decomposed in the stomach, and converted into carbonic acid, which uniting with the alkaline bases, enter the circulation, pass with the blood into the kidney, and are to be chemically detected in the urine. Hence we can readily understand how such abuses may excite the kidneys, and produce an increased flow of watery urine.

There are many vegetable matters which, in fact, act as diuretics, many of them by a direct excitation of the renal functions, many through the medium of the large quantity of watery fluid used for the solution and exhibition of the active principle. Many, too, in use as *nostrums*, though inert in themselves, are rendered diuretic by combination with urinary excitants, for the purpose of enhancing their virtues.

Among the causes, we must not fail to enumerate the intemperate use of mineral waters. Many of these are known to contain saline diuretics in small proportion, in solution; and the copious draughts swallowed at repeated intervals during the day, by the frequenters of these springs, not only tend to, but actually produce, habitual diuresis of various descriptions, which ultimately become fixed, and at last cause formidable urinary disorders.

Pathology.—Before entering on the pathology, the morbid anatomy would properly form a subject of previous consideration. But we do not often meet with fatal cases from hyperuresis, or simple diuresis, and consequently little can be determined with respect to the morbid anatomy, at least in reference to the urinary organs themselves. Persons suffering from hyperuresis certainly occasionally die, but then they die from the severity of the other affections with which this is so intimately associated. In many, obvious changes present in the other viscera, and quite sufficient to account for the fatal result; and, indeed, little or no changes are seen in the urinary organs. In some, however, a morbid appearance in the mucous lining of the bladder presents, such as preternatural vascularity, indicative of a highly irritable state of this membrane, and sometimes a thickening and hardening of the structure, or coats of the bladder, in different portions of its substance. However, observations of this sort are so rare, and the opportunities for morbid examinations present so seldom, that we must at present be content with our ignorance of the morbid anatomy; but it is probable that at these early periods the urinary organs would present no very obvious changes; and that whatever do present, are to be looked upon rather as accidental than as absolutely essential to the diseased phenomena.

With respect to the pathology, this does not appear to be a very intricate or a very difficult subject. The unnatural inundation of the blood with watery fluid will, of course, call the secreting powers of the kidneys into unusual exertion to free the circulation from the superfluous load. We know that there is nothing exerts so great an influence over the actions, whether voluntary or involuntary, of the animal body as habit; and therefore actions indulged in, or excited by the specific operation of causes, continued for a length of time, will be established, even though the causes be removed or cease to act. This physiological fact is, indeed, mechanically known and experienced, although the philosophy is a secret to the vulgar. Hence the expressions of—"the habit of early or of late rising," "of drinking," &c., and many others, which must be familiar to all of you; and these habits become so imperatively established, that the practice is spontaneous and almost mechanical. So it is with the consequences now under consideration; at first an indulgence in diuretic excitants, whether mere simple fluids, or the same impregnated with more stimulant agents, has really no necessity in nature. There is no thirst to assuage, no irritation to remove or allay; but from various motives excessive quantities of fluid are taken. The kidneys thus excited, and so often called into preternatural exertion, now act from habit, even though the former causes of increased activity be suspended. Now let us examine into the altered state of the phenomena. The kidneys, which previously merely separated the superfluous burden, and discharged, now deprive the circulating fluid of the water, or at least a considerable portion of the water, essential to its normal composition.

THE SUBSTANCE

OF

TWO LECTURES ON SCROFULA;

Delivered at the Westminster Hospital Medical School,

By Benjamin Phillips, F.R.S.

Lecturer on Surgery at that School, and Surgeon to the St. Marylebone Infirmary.

Lecture II.

I am not prepared to assent to the generally received opinion, that *food*, *filth*, and *clothing*, have any very direct influence in favour of or in opposition to the development of scrofula; neither am I disposed to admit the correctness of the statement, that of the cases of scrofula which come under consideration, a very large proportional majority are found to afflict the poor. I say proportional, to guard myself from misinterpretation, because, as the poor constitute a majority of the people in all lands, there can be no doubt that they furnish a majority of the cases of scrofula. All that I wish to convey is, that this affliction does not fall much more heavily, in a given number of cases, upon the poor, than upon those whom providence has placed in a better condition. My reasons for believing that the three circumstances above alluded to have no great influence in producing this disease are as follows. A friend has furnished me with the following results, obtained from one parish in Wiltshire:—"There are in this parish 49 families, the heads of which earn seven, eight, or nine shillings per week. The number of children in these families amounts to 153; they have many of them scarcely rags to cover them; they scarcely get any animal food, and live principally on what would seem to be an insufficient quantity of coarse bread, potatoes, and some butter-milk. Of these children only three presented any of the usual symptoms of scrofula." In four courts in the parish of St. Marylebone I have found 63 families, containing 201 children, the greater number running about, some engaged as errand boys, and so on; very few with shoes or stockings; most of them with clothing insufficient to cover them; scarcely any of them with enough to protect them from the cold; fed upon pretty good bread, potatoes, and an occasional piece of meat—in fact, much better fed than the children of the Wiltshire agricultural labourer. Of these children 19 presented manifest signs of scrofula, affecting the glandular system, the eyes, or the bones. Now, as far as food, clothing, and probably cleanliness, are concerned, the Marylebone children were at least as well off as those of Wiltshire: whence comes, then, the greater frequency of scrofula in the former? Take the people of Palermo, and who are worse fed or worse clothed than they are? Their food frequently unripe fruit, a little Turkey wheat boiled in water, and probably a little fish; and what people more free from scrofula than they? Scrofula is occasionally endemic at Goettingen, and is attributed to the use of the potatoe as a principal article of food—a speculation which was hazarded by Haller. It is said, again, that it is to the *food* that the negroes transplanted from Africa into Europe owe the development of scrofula. To what, then, do the animals introduced from torrid climes to our own owe the development of scrofula and tubercles? The lion and tiger eat only animal food in a state of nature; they get only animal food here. The monkey eats fruit in his own land; he gets it here. Some other influence than food must, I apprehend, be in active operation to produce scrofula. There can, however, be no reasonable doubt that food of bad quality, or deficient in quantity, may prejudice the health—may excite the mesenteric glands to unhealthy action—may, in fact, lay the patient open an unresisting victim to the attacks of scrofula, or any other disease.

A few remarks seem necessary with regard to *water*. It has been stated by many writers that the inhabitants of certain valleys in our own and in other countries owe the frequency of their suffering from this disease to the water which they use (snow-water); but the only difference which has been distinguished between this water and river-water is, that it contains a smaller portion of atmospheric air. But then, according to the evidence of Saussure, the mountaineers drink the same water as the inhabitants of the valleys; and among them scrofula is rare. It is true that, at Rheims, there has long existed an opinion that stagnant water produced scrofula, and that, in consequence of this impression, a rich and benevolent canon devoted a part of his riches to the construction of an hydraulic apparatus, by which a stream of water from the Vesle was directed upon the town. It is further stated, that after a few years the number of cases of scrofula diminished. When Desgenettes inspected, in 1806, the Hospital of St. Marcou, specially devoted to scrofula, he ascertained from the registers of this institution that the number of cases had greatly augmented since the water-works had got out of repair. Now these circumstances, which appear so like a true narrative, are contested by Baudelocque, who says that, in 1777, Laignières, after examining the registers of the same hospital, stated that the number of cases

of scrofula had diminished more than half since about thirty years; and that these water-works had only been constructed in 1753, and that therefore the water could have nothing to do with it. Whether or not the water had the effect attributed to it, may be still a question; but I cannot help thinking that Baudelocque's reasoning is hardly satisfactory—in fact, too strained. About thirty years may often mean twenty-four; and *since* may often mean *during*. He would rather refer the amelioration to the widening of certain streets, which seems to have been *ordered* in 1755, and to the improvement in sewerage, which occurred between 1732 and 1748. It is not denied that the disease has increased there since the waters of the Vesle are no longer directed upon the town; neither have the wide streets been reduced to their pristine narrowness; nor have the sewers again become uncovered; therefore, upon the above data, we think the water advocates have the best of it. But further evidence would be required before we should be authorised to pronounce judgment. Among the information which is required is the state of the poorer classes. New operations of manufacturing industry have, I believe, been introduced, and the population of certain quarters of the town has become much more dense—something like our Spital-fields. The influence of this state of things should be weighed.

If *filth* were a cause, how fearful would be the ravages of the disease! see the German Jews: can any thing be more filthy than their children? And it is true the disease is frequent among them; but take children upon whom every care is lavished, they become the victims of scrofula. Can any thing be more filthy than the people of Palermo? yet the disease is comparatively rare there. Take our own country, the people of which are reputed among the most cleanly in Europe, and the disease is extremely common.

Atmospherical *influences* in the production of this disease, if they have any effect, are inconsiderable. If you deprive vegetables of light, they become bleached or colourless. If you deprive a human being of light, a somewhat similar appearance is produced in his person; but whatever may be said, this state is not scrofula; it may be a state of debility predisposing to any disease.

With respect to *temperature*: it is in those countries which are temperate that the disease is most commonly seen. Once developed, the transitions from warm to cold are decidedly injurious. In the St. Marylebone Infirmary, the amendment in cases of scrofula, which during the summer and the beginning of autumn has been progressive, is interrupted; and on the approach of winter they very frequently commence a retrograde march; but my registers do not shew any greater proportional increase of application for admission or attendance during winter than is observed with regard to most diseases. M. Baudelocque maintains that this is not owing to cold, but to the patients continuing longer in bed, using no exercise, and remaining in a ward where the air undergoes no sensible change from day to day, and where, therefore, a vitiated air is constantly respired: he is still more firmly impressed with a conviction of the correctness of this view, by the fact that among private patients this stationary condition or retrograde movement is not observed, and that the action of anti-scrofulous medicines is unchanged. That this is the result of M. Baudelocque's experience I do not doubt; but I fearlessly ask those who have frequent opportunities of observing the disease in our own country, whether their experience is not the converse of this? My own opportunities of observation have been considerable, and certainly the retrograde tendency in scrofulous ulceration during winter is very nearly as remarkable as I have usually seen it in the wards of an hospital.

With respect to our own land, it may be interesting to inquire, whether the *humidity* of our climate exercises any particular influence in the development of the disease. Holland is a more humid country than our own, and probably suffers more from scrofula; but then many very dry countries are equally afflicted—many damp ones are nearly exempt. I am therefore inclined to believe, that alone this is insufficient to excite the development of the disease, but the data necessary for determining the question are wanting.

It is believed, by M. Baudelocque, that the "*vitiation of air* consequent upon insufficient ventilation, is the *true*, perhaps the *only* cause of scrofula—that where there are scrofulous people this cause exists—that wherever it exists there shall we find scrofula—and that where it is wanting scrofula is unknown." I would readily concede to him, that in large towns scrofula is most commonly found in those densely-peopled quarters where ventilation is ill performed, but then it should also be borne in mind that there other causes of disease are also in action. No one in our own country will deny that although scrofula is found in greatest quantity where dense masses are collected in small spaces, that it is also found where houses and rooms are lofty, streets wide, and every care lavished—no one will, I apprehend, deny, that in the houses of

the rich and great, in towns and out of towns, this disease is very frequently developed, where the cause in question does not appear to be in operation. He triumphantly refers to Spitalfields in support of his opinion, and compares it with Whitechapel; in the former, says he, the entire population is tainted with scrofula, and a large proportion have crooked spines, are pale, emaciated, and miserable; the young man of twenty looks forty; no aged person is seen unmutilated; crook backed, round shouldered, bow legs, and long arms. A man above five feet is a giant. In the latter, says he, which is an adjoining quarter, the houses are better, the occupations of the people are different; they are not heaped into small rooms—and the people are vigorous, "well-built," and good-tempered.

From the inquiries I have made, I would incline to the opinion that scrofula is much more common in Spitalfields than Whitechapel, but Baudelocque's preoccupation in favour of his theory must have been pretty strong, and his information extremely inaccurate, to have enabled him to paint such a picture of the inhabitants of Spitalfields: although I admit, as a fact, that the inhabitants of Spitalfields are greater sufferers from this disease than their neighbours of Whitechapel, yet my data are very insufficient to warrant me in speaking of it as an established fact: it must be borne in mind that many portions of Spitalfields are not so densely populated, nor so completely occupied, as he would suppose, with their looms; and that a good deal of the adjoining portions of Whitechapel are similarly tenanted and similarly occupied with corresponding portions of Spitalfields.

Again, he states, what my own observation convinces me to be perfectly true, that a very large quantity of this disease is developed in persons occupying a somewhat different rank in large towns—small shopkeepers; and with respect to them, we may apply the same reasoning as to the poor weavers—they rarely escape from their houses except for a few hours on Sunday, and not always then. The upper part of their houses is usually let out to lodgers; their only retiring room is often a miserable little room behind the shop, which often also serves as a bed-room, Ventilation is scarcely at all effected, and from day to day very little change takes place in the air of these rooms, which must become extremely vitiated, and very unfit for the purposes of respiration. Adults may and do struggle against such a noxious influence for a long time; but we need only look at a large portion of this class of people, to be assured that their health is seriously undermined—that their power of resisting disease is greatly weakened. With children, however, the case is more serious: for a few hours a day they may be sent to a neighbouring school, but this does not better their situation; from a small room at home, ill ventilated, and with perhaps four or five persons occupying it, they proceed to another room hard by, little if at all larger, and occupied by from twenty to fifty persons. Such is the life they lead, at a time when they are most susceptible to the attacks of disease; and there can be, I apprehend, little doubt, but that the mean duration of life in this class is much shorter than in persons in a similar class, whose avocations do not confine them to the house, or to such small rooms. And after the register of the Enfants Trouvés, and other establishments devoted to children, it results that the ravages of scrofula are more decidedly felt, whilst the children remain in these establishments, and that their health becomes sensibly ameliorated when they are sent to small houses in the country. In the larger receptacles a large number is confined in comparatively small spaces, and comparatively little opportunity for exercise is afforded them. In the country, although the rooms are small, the number occupying them is also small, and their facilities of taking much exercise are almost unlimited.

As I have denied the power of any one of the so-called causes of scrofula to produce the disease, it may reasonably be asked whether I am prepared to substitute for them any more probable exciting cause. I believe, that with the exception of the ordinary contagious disease, and those caused by violence, the greater number of the complaints to which mankind is liable may be excited by a variety of causes, and that frequently several are in action at the same time. When we see the child of persons in easy circumstanees suffering from scrofula, whilst the parents shew no manifest indication of being the subjects of the disease, or of having suffered from syphilitic taint—when the sufferer does not present the lymphatic temperament, is well fed and clad, and living in large and lofty rooms—we have a difficulty in pointing out a cause; but usually it is not so. Ordinarily, we shall find that such a child has suffered from worms, has bad digestion, increased at the commencement of the second dentition—that there is an indisposition to run about with other children—that its flesh becomes flabby—and that swellings of the glands of the neck are observed. There are two schools not far from my residence, in which I have been enabled to make the following observations:—The number of children maintained in each is about a

hundred—the annual admissions about thirty; the dormitories contain about twenty. In the one, the rooms are low and small; in the other, they are large and lofty—in each case infinitely superior to the homes from which they came; in the former of the two schools the cases of scrofula amounted last year to twelve; in the latter, to five. Now when those children were at home, during much of the day the heaven was their canopy—they were running about the streets; they were in the way at home; they were ill fed and miserably clad—for sixteen or eighteen hours they were confined to their narrow homes; for six they were wandering about—but no scrofula was developed. They come to school; they are fed with a sufficiency of wholesome food; their persons are kept clean and well covered; they live in rooms where all possible ventilation is attended to: but mark the difference between the large rooms and the small ones. In these cases, their condition, save and except upon two points, that of breathing the unconfined air of heaven, and using considerable muscular exertion, is greatly ameliorated. What, therefore, prevented the earlier development of the disease? I apprehend these two causes:—

I will support this position by further evidence. What caused the lesser frequency of the disease in the children of the Wiltshire peasants than in the child of the Marylebone mechanic or labourer? The more uncontrolled use of legs and lungs—even in spite of worse food. Again, take the children of mechanics in the northern counties of England. What is their life? During much of the day they are occupied in manufactories, not in close rooms, but large halls—and one of two things happens. Either they are leading a sedentary life unchanged from day to day, or they are exhausted by muscular exertion or *ennui*—in all, the same condition of system is produced; they become flabby and exsanguined, and scrofula is the consequence. Here the air they breathe has not undergone that vitiation upon which M. Baudelocque so much insists, but the result is the same. Take another class of people, in whom the result is still more painful, persons also engaged in manufactories; those who, like the class found in Spitalfields, perform their labour in their own miserable habitations; many members of such families frequently do not go out of doors for days; the children are equally employed. When cold weather comes, to save coal and maintain warmth, every crevice in the window is carefully stopped up, and the door kept shut; here those two causes are in action in all their intensity, and the havock which this disease makes under these circumstances is very fearful.

At the same time, therefore, that I admit that hereditary predisposition may possibly be entailed—that the child of parents whose health is deteriorated by scrofula or any other disease, may come into the world a miserable and ready recipient of any disease—at the same time that I admit that the *lymphatic temperament* is a probable indication of a constitution less able than others to resist the inroads of disease; that a diseased nurse may furnish milk ill adapted for the purposes of nutrition, capable of disordering the bowels, and perhaps exciting mesenteric disease; that parents who are tainted with syphilis are less likely than persons in health to give birth to healthy children; that food may be so bad in quality, or deficient in quantity, as to produce a general deterioration of the powers of life; that filth and insufficient clothing may materially interfere with cutaneous exhalation; that a vitiated air does necessarily but surely cause a decline of the vital powers; and that the want of muscular exertion brings about a similar condition; yet I have no evidence sufficiently conclusive to produce a conviction on my mind that either of these "causes," acting singly and alone, but uncontrolled as to duration or intensity, is capable of generating scrofula in a person free from the disease when the influence came into action.

Now, as to treatment, I would say, if a child is residing in a town, no matter whether in a large house or a small one, a change to the country is very desirable. The change of air, joined to the exercise in the open air which may there be taken every hour in the day, is unquestionably a very powerful means of preventing the development of the disease. With respect to the necessity for change of climate, I have much difficulty in pronouncing. Many circumstances would seem to warrant the opinion, that such changes may exercise a remarkable influence in the development of scrofula.

It is unquestionably a fact, that men apparently exempt from all scrofulous disposition or affection, are now and then attacked, when they quit a warm country to inhabit a cold one; and in these cases it is said the disease is more serious and more difficult to cure: the broad fact may be true; but we want to know, what has been the change in their habits as well as in the climate. Again, it is not easy to ascertain whether in youth a tendency to the disease was manifested. If a child be brought to you suffering from the disease, and you ask the parents whether they have suffered from a similar affection, you

may be sure they will say no, and will vaunt the excellence of their constitution; they may say, probably, the nurse may have been tainted, or that their child has mixed a good deal with some children who had suffered. It is certain that animals transported from warm to cold climates ordinarily suffer from tubercles; but then it is difficult to estimate the influence of climate in producing the disease; their accustomed exercise in search of food is lost, and they are the denizens of a narrow space, boarded on three sides, so as to allow of a human minimum ventilation. On the other hand, it is certain that persons evidently scrofulous are frequently much benefited under the influence of warmer climates; in fact, it seems to be by this circumstance that we are enabled to explain the amelioration which patients undergo during summer, whilst, during other portions of the year, it may resist every kind of treatment; and without seeking to deteriorate the merits of iodine, every one who has been accustomed to administer the different preparations of this medicine must have observed how comparatively inefficacious they are in the cold months; how decidedly advantageous is their exhibition during summer.

Before we proceed further it is necessary to inquire whether there be any other particular circumstances under the influence of which remedial means present a better prospect of success. As to food, the course I am accustomed to pursue is, to afford my patients what is termed a generous diet, when there is no decided mesenteric affection to contra-indicate it; to give then a moderate quantity of animal food once a day, with well-cooked vegetables, and good bitter table beer, or wine and water. As to cleanliness, this must be carefully attended to, either by means of bathing or sponging; the surface of the body should be daily abluted and rubbed for some minutes, until thoroughly dry, and the capillary circulation of the surface be stimulated by means of warm towels. A most important element in the treatment, and one which cannot be too much insisted on, is exercise; but it must not be that kind of gentle exercise which invalid children left to themselves are too apt to take, but such as will largely employ the muscular system; they should be taken out twice or thrice daily in winter, if possible; and in summer they should be very little in the house during the day. It is necessary that games should be provided for them, so as to secure active motion for as long a time as the patient can bear it without fatigue. Indeed, I hold this to be one of the most decided preventatives of this disease. I am so strongly impressed with the value of this agent, that I willingly subscribe to an opinion I have somewhere seen maintained, that by the well-directed employment of strong muscular exercise, many cases of this disease, where even tumors are found in the neck, may be cured. I hold it, therefore, to be necessary, that the several means to which I have now alluded should form the ground-work of our treatment of this disease, to which should usually be added the exhibition of certain medicinal substances.

Various systems have been greatly eulogized by their respective inventors. Many of them have long been consigned to oblivion, and probably some of those still retained, might, without loss, share a similar fate. I have fairly tried four of these systems, and I shall lay before you the results: those which I have employed are the antiphlogistic; in which I include the use of purgatives, emetics, blood-letting, and counter-irritation, the treatment by the various preparations of iodine, the alkaline treatment, and the mercurial.

Purgatives are unquestionably useful when conjoined with the general means to which I have alluded, and will frequently very manifestly modify, if not cure the disease, and they are, especially valuable as an adjunct to the other modes of treatment: they are particularly useful when given during those periodical interruptions which are necessary in the treatment by iodine. How they exercise this beneficial influence is not so easy to explain—whether by exciting the action of the stomach and intestines, by procuring serous evacuations, or by other means; so much, however, is certain, that they are often of great use, and especially as an accessory means of treatment. The impression produced upon my mind is, that those purgatives are most beneficial which procure fluid evacuations, those into which saline substances enter.

My own experience does not enable me to recommend emetics with so much confidence as seems to have been felt by Bell, Smyth, Bordeu, Kortum, or Dussassoir. Undoubtedly, scrofulous children very commonly present a furred tongue, which is often not cleaned by the use of purgatives; such a case is often much benefited by one or two emetics; but beyond this my belief in their efficacy does not extend. I have never known the frequent use of emetics to be succeeded by any greater amount of amelioration, than is usually experienced from the exhibition of two or three.

I have never known more than a passing relief to result from *blood-letting*; and this might naturally be expected, if it be true (and there is every reason to believe

it is) that in scrofula the serum largely predominates in the blood. The abstraction of any quantity of blood must necessarily lessen that proportion, and as necessarily increase the evil which it is intended to remedy. The action of purgatives, when they produce watery stools, is the opposite of that. They occasion the exhalation of a considerable quantity of serous fluids upon the mucous surface of the intestines; and by so much lessen the preponderance of the serum in the blood.

In the last and the preceding centuries it was currently believed that we possessed a power of neutralizing the condition upon which the tendency to abnormal deposits depended; and that power was supposed to exist in the *old subcarbonate of potash, or salt of tartar.* Levret believed that it was capable of rendering all deposits fluid, and that in this condition they might be absorbed or evacuated. Although, in the present day, we are satisfied that such virtues are not found in this substance, yet a sort of vague, undefined impression seems to exist, that it is not wholly useless even in scrofula. The Elixir of Peyrilhé, used in France up to the present day, is a mixture of this substance with infusion and tincture of gentian. In the *Collectanea Hauniensis* is a case of rickets, which appears to have been successfully treated by this medicine. Internally, I have given this medicine in small and large doses, in almost every form of scrofula, whether affecting the glandular, the mucous, the osseous, or the fibrous tissue; and I am unable to point out any case in which any small amount of relief which may have been obtained during its use could be fairly referred to this medicine.

In 1784, Crawford proposed as a remedy the *muriate of baryta*, and it was well received; it was very generally used through the greater part of Europe. Suddenly, two very opposite opinions were propagated with regard to it: one, that it was a useless addition to the materia medica; the other, that it was an agent of great energy, and that its exhibition, unless very guardedly, was not without considerable danger. These opinions were no sooner published than its use was abandoned, without, as it appears to me, any fair trial, in every country of Europe except Austria. The Austrians were satisfied that in this medicine they possessed a very valuable agent in the cure of scrofula, and my own experience has convinced me that they were right, and that with the exception of iodine, no medicine seems to exert a more decided influence over scrofula than the muriate of baryta. It usually increases the appetite to about as great an extent as we see in children who are taking moderate doses of iodine; it increases all the secretions, and sometimes, like some of the forms of iodine, produces diarrhœa.

In twelve cases where it was exhibited in the dose of, at first one-third and afterwards half a grain, three times a-day, no unpleasant symptom was developed. Eight were materially benefited by its employment. The general health improved sensibly, and the enlargement of the glands was very considerably lessened. In the other four cases no sensible influence was exerted over the disease. At the same time, however, that I am fully sensible of the valuable character of this medicine, I am bound to admit that its curative effects are less powerful—less certain—than those of iodine, and, therefore, for some time I have ceased to employ it. Several times I have proposed to use it alternately with iodine, or, when it has been necessary, to intermit the employment of the latter; but I have not yet carried this intention into effect.

Iodine, in its various forms, I have used extensively; and I have had very ample opportunities of estimating the relative merits of the different preparations of this substance. I have administered it in the form of tincture mixed with water, and also associated with the iodide of potassium. I have exhibited the iodides of iron, lead, sulphur, and arsenic. I have employed it externally, in the form of ointment, lotion, and bath, and as a broad or wholesale result, I may state shortly, that at present I rarely use internally any other form than the iodide of iron, and that the dose does not exceed, in any case, three grains, three times daily. I do not object to the tincture, because, as is alleged, the iodine is thrown down in a pure state when dropped into water, and so applied to to the mucous membrane of the fauces and stomach, and is apt to create irritation there; but because I found that diarrhœa was an occasional consequence of its use—that it was inconvenient to trust the persons ordinarily found about patients to administer it—or because, when mixed in considerable quantity, a certain portion is precipitated, and because I found, in the ioduret of iron, a more valuable and certain remedy. I am quite ready to admit that many of these inconveniences were lessened by the combination of iodine with the iodide of potassium, suggested by M. Lugol; but the objection I found to attach to this form of administering the medicine, was the bulk of the vehicle, which very frequently disordered the stomach; and when I have lessened it, I have usually seen disorders of the stomach and intestines as a consequence. And in several

cases, although the doses have always been moderate, the poisoning effects of this medicine have been developed; and I have no doubt that these effects would have been more frequently seen had we not from time to time interrupted the treatment.

Internally administered, I have had no reason to speak strongly in favour of the iodides of mercury, lead, and arsenic. The first and last are unquestionably energetic preparations, but I think them better adapted to certain obstinate diseases of the skin than to scrofulous tumors, and even externally, except in a very dilute form, when they may unquestionably second the internal administration of the medicine: if the quantity of biniodide of mercury exceed ten grains to the ounce of lard, the irritation excited upon the part where it is rubbed will be such as to prevent our continuing it. The preparation of lead, in the proportion of a drachm to the ounce of lard, rarely excites similar irritation.

I have a register of 172 cases in which I have exhibited the iodide of iron. The minimum dose has been a grain twice a day, the maximum three grains three times a day. Of these cases, only twice was it necessary to intermit the use of the medicine for a few days: in one of these it excited ptyalism; it was laid aside for a fortnight, again resumed, and again produced ptyalism. Since that period, and within the last three months, the same patient, on her return from Margate, has been taking the medicine with the most decided good effects, and without ptyalism. In the other case diarrhœa supervened; the medicine was withheld for ten days, was then resumed, continued for several weeks, and without any derangement of the bowels. About once a week an aperient or purgative is given, which decidedly assists the treatment, but no other suspension of the medicine occurs. Where scrofulous ulcerations occur, whether as a consequence of abscess or from other cause, I am accustomed to employ, with the very best effect, a lotion containing three or four grains of this preparation to the ounce of distilled water.

In the employment of iodine or the iodide externally, one fact cannot escape a superficial observer, and that is the rapid change which follows the application. For a few days this diminution is very striking, but it is not long continued, and after a fortnight or three weeks the tumor appears stationary. Then is the time for resorting to a new form, which must be employed for a similar period, and must then give place to a third. But although these external applications will occasion a marked diminution of such tumors, they hardly ever completely disperse them; and when applied alone, without a concurrent internal administration of some preparation of the medicine, their effects are much less decided.

When such tumors are extremely indolent, the ointment may be rubbed upon the part without fear of injury; but if they be the seat of irritation, it is very likely to be increased by friction. In consequence of this circumstance, I usually recommend it to be applied to the part spread on lint. It is thus kept in contact with the surface for a much longer time, the irritation consequent upon rubbing is avoided, and the good effects of the medicine are more decidedly marked than by any other mode of application.

Many authors speak of great or partial emaciation consequent upon use of iodine. Jahn describes cases in which the emaciation was general. Coindet has referred to a diminution of the mammæ. Hufeland also gives three examples of it. Others have referred to the testicle as suffering in a similar way. And these isolated cases, which may or may not have succeeded to the use of iodine, are erected into a general law. Now, in my own experience, so far from emaciation of the whole or a part of the body being essential to the therapeutical action of this medicine, when prudently administered, one of the earliest symptoms observed is a remarkable increase of appetite, and a corresponding increase in the bulk of the body. I have watched its effects with great care, and I have not known a single case in which either the whole or even a part of the natural structures of the body have undergone any such change.

My experience of iodine in the form of baths is inconsiderable: such as it is, it leaves no desire on my mind to extend it. In two cases a considerable and troublesome eruption on the skin was produced; in three cases vertigo, with a suffused countenance, was occasioned, which was not dissipated for many hours, and no sensible good effect was produced on the tumors. These circumstances, added to the costly nature of the remedy, have deterred me from prosecuting further this mode of treatment. I know that this opinion is in opposition to that of Lugol, who is satisfied that the cure of these diseases is much accelerated by the conjoint use of baths and internal remedies; but any one who reads the cases given by Lugol cannot fail to recognize the same effects which I have described, though with less intensity. However, Baudelocque has come to a conclusion not very different from my own. Still he points out a remarkable effect which he has observed upon suppurating surfaces: he has always seen the suppuration much diminished, and the surface contracted; so that for

some days much less linen was required for dressing the patients; but this effect does not seem to have been permanent.

Relying upon the encomiums of Hufeland, Charmeil, and others, I resorted to the use of the *black sulphuret of mercury* in the treatment of this disease; but, whether associated with hemlock, magnesia, or ipecacuanha, I found no sufficient reason to induce me to employ it generally. I do not deny that the disease is often gradually but slowly ameliorated during the administration of this medicine; and I have never known any unpleasant effects —such as salivation—to result from its use; on the contrary, the tongue and the evacuations have improved under it, but with much less certainty and a much greater loss of time than under the influence of iodine. I prefer it to the common mercurial remedy employed in such cases—calomel and rhubarb—because, with the exception of the amount of good produced by evacuating the bowels, I have never seen any decided antiscrofulous virtue manifested by it.

Though under the influence of those remedies which we have just been considering, a patient's general health may be very decidedly improved—though glandular tumors may lessen—and even where suppuration has taken place, and the integuments over it have become thinned, they may be dissipated—yet where scrofulous matter has been deposited in its cheese-like form, neither iodine nor any other remedy which we know has power to procure its absorption; where it is deposited there it must remain; a point around which irritation is easily kept up, and about which, sooner or later, suppuration will take place; the abscess will either break, or art will interpose to facilitate this result by puncture, and it may thus be eliminated from the system. True it is, however, that the disposition to deposit this matter may be neutralized, and that all the more fluid portions of matter so deposited may be absorbed, and that, after death, a mass of cretaceous matter will be found to occupy its place. But in a large number of cases, spite of the most prudent treatment, the local disease will end in abscess; for instance, out of 89 cases, 33 presented this termination. When this is inevitable, it is unquestionable that we ought to anticipate by puncture, or other means, that gradual thinning of the tissues to which nature resorts in accomplishing the object; but it is not an easy matter to determine whether or not a scrofulous abscess will advance or retire: we may see the integuments so thinned that only the cuticle would seem to prevent its emptying itself, and yet it will retire—the whole of its contents will be absorbed. It must, however, be borne in mind that such abscesses are usually found to occupy the cellular tissue, and sometimes a lymphatic vessel, where, no gland exists; in those cases where the abscess surrounds a gland where the preduct deposited in the substance of the gland is a constant source of irritation, the onward progress of the disease is more probable. It would, of course, be desirable that not only the thin sero-purulent matter which is usually contained in such abscesses, but also the scrofulous product, should be evacuated before the thinning has proceeded far, and the violet colour of the integuments is displayed; but this is a desideratum not easily accomplished. If the product have not undergone softening, often no evacuation of the matter will take place; if it have, a slight oozing, bringing away from day to day small portions of this matter, will be the course of evacuation, and often many months will elapse before the gland and its contents shall have been evacuated; and at the end of that time an unsightly cicatrix will be the consequence. This result is accomplished in the following way: one or two small openings in the thin violet-colour integuments are the channels through which the matter is discharged. A more or less extended cavity exists under, produced by the breaking down of the gland and its surrounding cellular tissue. When the whole of this structure is broken down and evacuated, this surface presents granulations which have a tendency to skin over without adhering at all, or on other occasions only partially to the superjacent thinned integuments. The consequence of this is an irregular puckered surface; and when, as is often the case, the subjacent tissue becomes adherent to the deeper-seated organs, the deformity is increased by a pitting. To prevent this aggravation, two modes may be resorted to. When the time for procuring the evacuation of such a tumor has arrived—when the integuments have become much thinned—the best mode of opening it is by applying the Vienna caustic paste to the part, taking care that the paste shall include the whole of the thinned structure. A fair and sufficient opening will thus be made; the evacuation will be more speedy, the remaining tissues will be healthy, and the cicatrix will be comparatively trifling. If, however, this have been neglected, or another course pursued—if the discharge be going on from one or more small points—if the integuments over the parts be very thin—then with scissors excise the whole of the violet integuments, and you may hope to lessen the deformity which would otherwise succeed to the disease. But much valuable time would probably be lost in the endeavour to heal the sinuses connected with the cavity; the various

forms of iodine, in a more or less concentrated state, would have been applied to them, and the patient subjected to much suffering. And here I may state that after ample experience of such applications to these sinuses, I am decidedly of opinion that they occasion more pain and are much less efficacious than the nitrate of silver.

On a succeeding occasion I may request a place for some observations on particular forms of scrofula.

FURTHER REMARKS ON MR. TYRRELL'S RATIONALE OF HIS OPERATION IN THE PURULENT OPHTHALMY.

To the Editor of the Medical Gazette.

Sir,

At the conclusion of his answer (in your No. of Feb. 9) to my "Remarks" (in your No. of Jan. 19) on his paper on the Purulent Ophthalmy*, Mr. Tyrrell says, "If Mr. Jones is desirous of pursuing this subject with a proper spirit, I hope he will visit the Royal London Ophthalmic Hospital, in Moorfields, when I will give him all the aid I can in testing the soundness of my doctrines on this subject; and I will not only forgive him, but confess myself under obligations to him, if he will accept my offer."

In this I do not quite understand Mr. T., but as he makes use of the expression *forgive* in reference to me, I infer that he thinks I have injured him. If such be the case, I can appeal to you, Mr. Editor, that I had no intention of doing so. You can bear witness, that when I sent you the MS. of my "Remarks," I begged you to have the goodness to draw your pen through any expression you might think too strong. You know, Mr. Editor, you did not strike out a single word; and, after reflecting on what I wrote, I cannot see wherein I have wronged Mr. T. †; of course he cannot look upon the respectful, though decided, expression of my dissent from his views as any injury to him.

In regard to Mr. Tyrrell's answer, I cannot see that he has in any way invalidated my arguments; I therefore still maintain them, and would beg my "Remarks" to be understood as a sufficient reply to the strictures they have elicited; excepting always any thing which may be pointed out as personally injurious to Mr. Tyrrell. At the same time I beg that gentleman will do me the favour to read my "Remarks" over again carefully, as I fear he has in some points not perfectly understood their scope; at least the way he represents my meaning induces me to think so.

Mr. Tyrrell, in his answer, has introduced a new topic—a fact which, he says, he discovered some years since, and which he considers "a further beautiful confirmation of the correctness of his statements respecting the vascular supply of the cornea."

Mr. T. writes thus:—

"There is a symptom which was first pointed out by the continental ophthalmic surgeons, and considered by them as diagnostic of rheumatic or arthritic iritis (and which opinion has been adopted by most of our authors): it is the appearance of a whitish or ash-coloured line round the cornea, between it and the vessels of the sclerotic, which form a red zone, without the whitish circle." This symptom, Mr. Tyrrell truly says, is not, however, really diagnostical of any particular form or modification of disease. But from the explanation of the appearance which he offers, and of which he says he has no doubt of the correctness, I beg most respectfully, but at the same time most decidedly, to differ.

The following is Mr. T.'s explanation:—

"The mode of junction of the cornea and sclerotic varies considerably; it is usually in a degree oblique, so that the anterior and external part of the sclerotic overlaps the margin of the cornea, and the cornea is in part continued behind the sclerotic: thus part of the opaque sclerotic covers the margin of the transparent cornea; much as the metal of the watch-case overlaps the edge of the watch-glass. Sometimes the overlapping of the opaque tunic is trifling, sometimes it is very considerable; usually it is uniform all round the cornea, but occasionally it is

* Medico-Chirurgical Transactions, vol. xxi.

† [We are very unwilling to become parties in any discussion between correspondents, but in the present instance we feel called upon, in justice to Mr. Jones, to state, that, in our humble judgment, he has not in any degree overstept the boundaries of fair and gentlemanly discussion; while the acquaintance he has shewn with the subjects under consideration, in various papers published in the Philosophical Transactions and elsewhere, prove that his opinions are entitled to attention and respect.—Ed. Gaz.]

irregular, being greater at one or two parts than at others: thus it is sometimes considerable at the temporal and nasal borders of the cornea, and but little at the upper and lower parts; and I have noticed the reverse of this."

I entirely agree with Mr. T. that varieties occur in the mode of junction of the cornea and sclerotica, but I have generally found, as I have elsewhere delineated and described,* that, in the human eye, the edge of the cornea "being bevelled externally, is overlapped by the edge of the sclerotica, which is bevelled internally. The edge of the cornea is also generally overlapped on the inside by a thin prolongation of the sclerotica. * * * The transverse diameter of the cornea is a little longer than the vertical, because in consequence of the encroachment of the selerotica and conjunctiva on the upper and lower edges, the circumference of the cornea is actually oval, its small end being towards the temple. Viewed internally the circumference of the cornea is quite circular." As to the more intimate mode of junction between the sclerotica and cornea, I have also further remarked:—"Notwithstanding the apparent line of demarcation between the sclerotica and cornea, it is found on close inspection that the substance of the one is continued, though abruptly, into the substance of the other." Being both fibrous structures, they interlace their fibres, and it is only by the difference in transparency that the one is distinguishable from the other.

It is thus admitted, or rather no one doubts, that the sclerotica externally overlaps, or encroaches on, more or less, the edge of the cornea. But in certain constitutions, and especially in old persons†, I have observed that the overlapping part of the sclerotica is thicker and more opaque than usual, perhaps also encroaching more extensively on the cornea.

Mr. Tyrrell continues: — "Now, whenever the anterior termination of the sclerotic is prolonged much over the circumference of the cornea, either uniformly or partially, *the conjunctiva becomes firmly adherent to a part of the overlapping sclerotic*, and the conjunctival vessels contribute principally to its vascular supply in the same way as they afterwards supply the cornea itself; and this supply is nearly or quite independent of that which the sclerotic itself receives from other sources." In opposition to this I must assert, *in the first place*, that the conjunctiva covering the overlapping sclerotica, especially when the latter is to any considerable extent, is not so very firmly adherent; that it appears in its independent form, with its chorion fully developed, and adhering to the subjacent "overlapping" sclerotica by cellular tissue merely, and by no means presenting the same intimate union with the subjacent structure, and the same rudimentary state, which the conjunctival extension over the transparent cornea presents. In an eye before me, in which the overlapping sclerotica is to some considerable extent at the upper edge of the cornea, I easily raised up in a fold, and then separated by dissection, the perfectly developed conjunctiva from over the part. *In the second place*, the conjunctiva covering the overlapping part of the sclerotica has a vascular connexion with the latter, no otherwise than by the anastomoses of the proper vessels of each—a vascular connexion which, indeed, subsists between the sclerotica and conjunctiva elsewhere. If the conjunctiva had as close a connexion with the overlapping part of the sclerotica as its continuation over the clear cornea has with the latter, how comes it that, in intense conjunctivitis, we so often see the vessels of that part of the conjunctiva which covers the overlapping part of the sclerotica injected, and not a single branch visible over the clear cornea?

"When this anatomical variety in the junction of the cornea and sclerotica exists," continues Mr. T., "and the eye becomes affected by sclerotitis, or by iritis, choroiditis, or aquo-capsulitis, in which the sclerotic participates, and has its vessels partially distended by red blood, the anterior terminal portion of the sclerotic, which is supplied by the vessels of the conjunctiva, remains free from red vessels (being unaffected), and presents a whitish or light ash-coloured aspect."

In replying to this, I would first request it to be remembered that the insertion of the ciliary ligament is at some little distance from the apparent

* Introduction to the 2d edition of Mackenzie's "Practical Treatise on the Diseases of the Eye." 1835.

† The *arcus senilis*, it is to be remembered, is not here the question.

margin of the cornea; that the vessels which form the red zone of the sclerotica in the internal inflammations of the eye, and in inflammation of the proper substance of the cornea, are vessels which send branches inwards to the iris opposite the ciliary ligament, branches outwards to anastomose with those of the conjunctiva, and, lastly, branches which, following the original direction, go to be distributed to the proper substance of the cornea. These vessels are not apparent in the healthy state, and one set of them only may become apparent in inflammation. Thus, in inflammation of the iris, they will be apparent only as far as opposite the insertion of the ciliary ligament. Between this and the clear part of the cornea is the opaque "overlapping" part of the sclerotica, which, of course, not being in the way of the progress of the vessels toward the inflamed part, remains white as usual, and the cornea not being affected, the minute branches to its proper substance remain unenlarged and unseen. Hence the overlapping part of the sclerotica is seen in contrast between the abruptly terminating red sclerotic zone on the one hand, and the transparent cornea (appearing dark on account of the dark structures behind it) on the other.

From this explanation, the ash-coloured ring round the cornea ought to exist more or less in all internal inflammations of the eye, unless obscured by vascularity of the conjunctiva, or inflammation of the cornea. So it does; but in persons of otherwise sound constitution, and not of advanced age, the overlapping sclerotica is so transparent, and sometimes, also, to so small an extent, that it is not strongly contrasted by the transparent cornea. It is otherwise the case, however, in certain persons, especially such as are advanced in life, in whom the encroachment of the sclerotica and conjunctiva on the cornea exists to a great degree, and in a very opaque state. In them the ash-coloured ring appears in the exaggerated distinctness which has commonly attracted the notice of surgeons.

The condition of the eye necessary for the *distinct* appearance of the ash-coloured ring round the cornea occurring principally in old persons of bad constitution, and these being the very persons in whom an internal inflammation of the eye very often presents the arthritic character, are circumstances which readily explain the error of supposing the ash-coloured ring round the cornea diagnostical of arthritic iritis. Had it been very distinct in all ages and in all constitutions, we can scarcely conceive that such acute observers as the German eye-surgeons should have laid so much stress upon it.

Of course, as Mr. Tyrrell says, "if the overlapping (of the sclerotica over the cornea) be uniform, the whitish line is regular, and surrounds the cornea; but when the overlapping is partial (suppose at the nasal and temporal sides of the cornea) a crescentic white or ash-coloured line appears in these positions, which is found gradually to be lost as it is traced to the upper or lower parts of the corneal margin"

According to Mr. Tyrrell's explanation of the condition of the eye giving rise to the ash-coloured ring round the cornea in internal ophthalmia, when corneitis takes place, "the reverse of that just described happens if the vessels of the cornea become at all distended with red blood; for then the part of the sclerotic which overlaps the cornea has its vessels also filled with red blood, and exhibits a highly florid appearance even when the sclerotic is otherwise white as usual."

How does Mr. T. know this, as, according to his view, the injection of the conjunctiva must be a necessary preceding condition of the injection of the overlapping sclerotica? According to my explanation, when corneitis occurs there is no ring, for then the corneal branches of the sclerotic vascular zone are continued forwards, enlarged, into the cornea.

I am, sir, yours, &c.

T. Wharton Jones.

Feb. 20, 1839.

INTRODUCTION OF THE NEW VACCINE VIRUS into AMERICA.

To the Editor of the Medical Gazette.

Sir,

Inclosed is the copy of a letter I have just received from a physician in America. As the observations it contains respecting vaccination may be interesting to some of the readers of the Gazette, I have pleasure in forwarding the communication to you for publication.

It will be remarked, that the new vaccine virus which was sent to the United States (upon ivory points) re-

tained its power of propagating the infection two months after it had left England.—I am, sir,

Your obedient servant,

J. B. Estlin.

Bristol, Feb. 19th, 1839.

To Mr. Estlin.

Dear Sir,—The package containing your letter of the 25th October, with one from Dr. Prichard, together with two Nos. of the London Medical Gazette, and some vaccine virus recently taken from the cow, I did not receive until the 19th of December. Having removed from New York to this place, the gentleman who had charge of the package was not able to transmit it to me before. On receiving the virus I immediately vaccinated a healthy child, three months old, and being extremely anxious to have it succeed, made three punctures in each arm. Quite to my surprise, and to my great joy, on the fourth day there was some appearance of vesicles in five of the punctures—on the seventh they had increased considerably, and the child became restless and feverish, and vomited several times. On the ninth day the vesicles were very distinct and full; the areola large and well defined. As soon as I became convinced that the virus you sent me had not lost its virtues, (*i. e.* on the fourth day after inserting some of it as above stated,) I vaccinated two other children with the virus received from you, in both of whom it succeeded perfectly. From these three children I have taken virus, and given some to the medical gentlemen of this city, who are using it with success and great satisfaction; I have transmitted some to medical friends in New York city, and to the Vaccine Institution of that place, and I shall exert myself to spread it over the country.

Most sincerely do I thank you for this valuable present to myself and country. For several years, in common with other medical men of my acquaintance, I have noticed that our vaccine virus was less active than formerly: thus, frequently after very careful insertion no effect was produced, and at other times the vesicles were small, the areola indistinct, and the constitutional symptons very slight, and often not observed. I have feared our vaccine virus had become less efficacious in preventing small-pox than formerly, though I have no facts that positively prove this. The virus you have sent me is more active, produces a larger vesicle and more distinct areola, and more marked constitutional symptoms, than any I have used for ten years past.

The history of vaccination in this country, briefly stated, is as follows:—In 1799 Dr. George Pearson, of London, sent at two different times, threads, imbued with vaccine matter, to Dr Miller, of New York city; but this virus probably lost its virtues during the voyage, as experiments with it failed. In July 1800, Dr Waterhouse, of the University of Cambridge, Massachusetts, procured some good virus from England, and vaccinated his son: this was the first successful case in this country. From this source it was extended quite generally over the country; but this was not the only source. In 1801, it was obtained from the cow by Dr. Buel, of Massachusetts, and Drs. North and Trowbridge, of Connecticut. For a number of years vaccination was quite general throughout the country, but of late it has been much neglected. It is not in the hands of any particular class of medical men, but is practised by all physicians. Usually the physician who acts as accoucheur vaccinates the child when a few weeks old; but frequently, especially in the country when there is no alarm from the small-pox, medical men do not obtain the virus for a number of years: when a few cases of small-pox occur, then vaccination becomes general in that region. In some of the large cities are vaccine institutions where the poor are vaccinated gratuitously. In some of the states, as in this, the law requires the town authority to adopt measures for the vaccination of the inhabitants twice a year, and those who refuse to have their children vaccinated are liable to be fined; but this law I believe is wholly inoperative, though the town authorities occasionally hire a physician to vaccinate all who wish it.

Still we have had but very little small-pox among the civilized inhabitants, since the introduction of the vaccine disease. Cases out of the large commercial places are quite rare. During the last year it has prevailed to a frightful extent among the Indians in our western country. Several thousands perished in a short time, and no doubt many more would have done so, but for the prompt efforts of the army surgeons, who

were dispatched by our government to their relief with vaccine virus. In concluding this long letter I again wish to express to you for myself and my countrymen many thanks for the gift transmitted to me, and to assure you I shall endeavour to spread it over the country, believing it will be the means of doing great —very great good.

With sentiments of great respect,
I am your obliged servant,
A. BRIGHAM.

Hartford, State of Connecticut,
Jan. 16, 1839.

EXTRACTS FROM MEDICAL NOTES TAKEN IN HOLLAND,

August 1836,

By C. J. B. ALDIS, M.D.

Fellow of the Royal College of Physicians.

To the Editor of the Medical Gazette.

SIR,

DURING a short residence in Holland in 1836, I visited several of the medical institutions, and noted their situation, prevailing diseases, with the modes of treatment. If the few following extracts from my notes are worthy of a place in the MEDICAL GAZETTE, I beg the favour of their insertion.

I remain, sir,
Your obedient servant,
C. J. B. ALDIS, M.D.
Fellow of the Royal College of Physicians.
13, Old Burlington Street,
Feb. 18, 1839.

Hospitals at the Hague.

There are three hospitals in the Hague, one of which is civil, and the other two are military. The civil hospital is situated on the Zuid-wall, or south boulevard, in the neighbourhood of a flat and marshy country, resembling the fens of Lincolnshire. It is a neat brick building, capable of containing about two hundred patients; at present there is scarcely a fourth of that number. A stranger cannot obtain admittance without the permission of the medical man, who constantly resides at the hospital, besides which a small donation is expected by the porter from each visitor. There are separate wards, (all small and extremely clean), for medical, surgical, and obstetrical cases. The Jews occupy distinct wards, with attendants belonging to their own persuasion, in conformity with certain religious principles. There is a small and neat bath-room in the establishment. One case was shewn to me in the surgical wards wherein there had been considerable inflammation of both corneæ, and had received the usual antiphlogistic treatment, with a seton in the arm. The method of coercion, adopted in a case of traumatic delirium, was by means of leathern straps, instead of a strait waistcoat. The principal strap was placed round the patient, close under the axillæ, and fastened from behind to the head of the bed. If the patient became very violent, the arms were confined at the wrist, close to the chest, by smaller additional straps attached to the larger strap, which encircled the body. In the medical wards three cases were pointed out to me—one of continued fever, which I was informed had been treated merely by lavements, and was doing well; the others were dropsy and cancer of the womb.

The obstetrical wards are divided into two departments; one smaller room for the actual delivery of the patients; the other, for their reception after parturition. No contagious diseases are admitted in the hospital; there is, however, a separate building in progress, placed in the garden, for the reception of scarlet-fever, small-pox, measles, &c., which will contain four wards, two being intended for Jews. The garden is ornamented with an avenue of trees and flowers. The names of the physician and surgeon are Dr. Van de Watering and M. Wachter.

Military Hospitals.

There are two hospitals for soldiers at the Hague, the larger of which is termed the Military Hospital; the other, "Willem's Hospital," or hospital of the Princess of Orange.

The Military Hospital—A stranger, on applying to the porter of the military hospital for admission, is referred to the apothecary, who resides in the house adjoining, where he will readily obtain admittance, and a conductor to shew the interior. The building is situated in the Burg-wal, and contains at present about one hundred and fifty patients; but when the new part is completed it will accommodate a great many more. There are separate

wards for medical and surgical cases; and of the latter, the syphilitic and ophthalmic patients have wards exclusively to themselves. Ophthalmia is very prevalent. I was informed that there were two surgeons attached to the hospital, a surgeon-major, and one of the second class, who attended twice daily.

The Hospital of the Princess of Orange is situated in the Hekkelaan. It is fronted by a high wall inclosing a neat garden, and contains scarcely any patients at present, although large enough to hold a hundred persons.

Medical Remuneration.—The usual fee for the visit of a physician is a guilder or florin, which equals one shilling and eight-pence in English money. Several of the poorer tradespeople at the Hague subscribe a very small sum annually, to remunerate a particular medical man, and each family receives his attendance during the continuance of this subscription.

License to practise.—After a physician has received his diploma from one of the universities in Holland, if he wishes to practise, the diploma must be examined and signed by a person appointed for that purpose over each state and district in the country.

PREPARATIONS OF IRON.

To the Editor of the Medical Gazette.

Sir,

The following mode of administering iron may possess sufficient interest to obtain a place in the pages of your journal. Should any of your readers find the medicine useful in practice, perhaps they may be induced to publish the amount of success attending its exhibition.—I am, sir,

Your obedient servant,

Chas. Maitland, M.D.

Brighton, Feb. 21, 1839.

The carbonate of iron, originally intended to be administered in the preparation of that name, is not contained in a soluble form in any artificial medicine, with the exception of the factitious mineral waters. In these, as well as the natural springs, it is frequently met with, and its efficacy is abundantly attested by the practitioners who have employed them.

When, to a solution of protosulphate of iron (green vitriol), an additional amount of sulphuric acid is added, and bicarbonate of soda stirred into the mixture, no precipitate is produced. The carbonate of iron is dissolved in excess of carbonic acid, and sulphate of soda co-exists in the solution.

On exposing to the air for an hour the liquid thus obtained, a brown pellicle of peroxide gathers upon its surface; but when boiled for a few minutes, an abundant green powder is precipitated. It is thus proved that a real protocarbonate is formed, which is not very readily thrown down.

As the salts of iron are found to be most efficacious when considerably diluted, and the variable temperature of the fluid would materially interfere with the solution of a large preparation of the metal, I think the following mixture will be found sufficiently strong for most purposes:—

℞ Ferri Sulphatis, gr. ij.; Acidi Sulphurici diluti (Lond.) ℳxv.; Aquæ, ℥iij. Misce.

Immediately before taking this, the following powder is to be stirred into it:—

Sodæ Bicarbonatis, gr. xx.

The taste is less nauseous than that of other preparations of iron, and the carbonic acid, and excess of carbonate of soda, seem to render it peculiarly suitable to cases of irritable stomach.

For domestic and dispensary practice, this medicine possesses the advantages of being both cheap and easily prepared by the following method:—

Immerse a coil of iron-wire in a quart bottle filled with water, containing in solution 32 grains of sulphate of iron, and fill a similar bottle with water, acidulated with four drachms of diluted sulphuric acid. A wine-glassful of each is to be poured into a tumbler, and a powder of 20 grains of bicarbonate of soda stirred into the mixture.

Should the amount of liquid be an objection to these formularies, the iron may be dissolved in a wine-glassful of water, and the sulphuric added to it; and, if the muriate of soda be preferred to the sulphate, as a product of the decomposition, this may be obtained by substituting muriatic for sulphuric acid.

Since making the above experiments, I find that a similar mode of exhibiting iron was recommended many years ago, in Nicholson's Journal, by the late Dr. Green.

IODIDE OF POTASSIUM *v.* ZARSA.

To the Editor of the Medical Gazette.

SIR,

I THOUGHT the usefulness of the iodide of potassium, as a remedy in secondary syphilis, had become so well known from the mass of observations accumulated of late, as to require no further evidence in its favour, until I noticed a call for more in a recent number of the new Dublin medical periodical. I was therefore led to think that a brief account of the results which have attended its use in this hospital might not be unacceptable to the professional public. This will be found confirmatory of the evidence already advanced in its favour, and may, perhaps, contribute to induce those who still cling to mercury and zarsa, to avail themselves of this cheap, efficacious, and prompt medicine.

The quantity of iodide of potassium consumed in the hospital for the last three years, is as follows:—In 1836, 12½ oz.; in 1837, 63½ oz.; in 1838, 75 oz. This remarkable increase can only be attributed to a growing conviction of the efficacy of the medicine. Peculiar circumstances also enable me to present a comparative estimate of the value of zarsa and iodide of potassium in secondary syphilis, Mr. Russell (the junior visiting surgeon) having for some time exclusively prescribed zarsa, not being able to understand the rationale of the action of iodide of potassium, while Mr. Champney prescribed the iodide with equal if not greater success, in the very same kind of cases in which Mr. Russell gave sarsaparilla. And this circumstance also enabled me to satisfy a doubt which had been raised—namely, whether the cure of secondary syphilis by the iodide of potassium, after long courses of mercury and zarsa, ought not rather to be attributed to the continued good effects of the latter than to the beneficial agency of the former. Cases treated by the iodide only could be readily compared with the class just mentioned; and the result is, that while in the one, health was restored usually within six weeks, in the other there frequently appeared to be little amendment in six months. Certainly the nonsense in which some people indulge, about a regular course of sarsaparilla, appears to me as anile as the popular advice to adopt a spring course of nettle-top tea. It would be much more appropriately termed a regular course of rest and good living, combined with a slight tonic.

Two or three cases will suffice to illustrate the relative effects of the two remedies; and I may be permitted to add, that I am the sole resident medical officer of the hospital, and have myself carefully dispensed the medicines in question during upwards of two years and a half of the three over which my observations extend. Those who are acquainted with public institutions will appreciate the importance of this statement.

CASE I.—Dinah Mills, aged 20, was admitted, under the care of Mr. Russell, on April 21, 1836, having syphilitic cachexy, ulcers in the throat, and nodes. She was pale, rather thin, short, and had dark hair and black eyes. She was made an out-patient on July 11th, re-admitted September 22d, and continued in the hospital until May 1st, of the following year (1837), when she was discharged. From the period of her first admission, in April 1836, to February 28th, 1837, she took zarsa, without intermission, in one form or other,—decoction, alkaline infusion, Hudson's syrup with lime-water, and the powdered root in milk, or made into puddings. She also took the bichloride of mercury with zarsa, to ptyalism, which was kept up for three or four weeks; and her throat was at one time fumigated; at another, smeared with the liniment. æruginis. She also had her diet regulated with the greatest nicety. Yet with all this careful treatment she got worse and worse, and on February 28th, 1837, in addition to the nodes and ulcerated throat, she had ulcers on the scalp and arms, was exceedingly emaciated, had no appetite, and scarcely slept, even with the aid of large doses of opium. She now began to take five grains of the iodide of potassium three times a day, with her zarsa, and the following is the diary of her case:—

March 2d.—Complains of sickness after each dose of her medicine; add Tinct. Gentian. Co. ʒi. Appetite improved.

4th.—Cannot take the medicine, it is so bitter. Add the syrup of zarsa. Appetite better; can now sleep well.

6th.—Appetite very excellent, skin clearer, throat much better, ulcers on head healing. Complains of pain in the stomach after eating and taking the medicine.

Sinapisms to the epigastrium.

9th.—Pain relieved. Continues improving.

13th.—Much better every way: one ulcer on the head is healed; two others nearly so.

17th.—Still improving in every respect.

18th.—Complains of pain in her abdomen and loins; better in other respects.

19th.—Pains of yesterday continue; they may be the menstrual molimena; she has not had the catamenia for two years.

To have a hip-bath.

21st.—Relieved by the bath.

22d.—Let the ulcer be dressed with an ointment, composed of gr. xv. of the iodide of potassium, and one ounce of cetaceous cerate.

April 6th.—Ulcers nearly healed; quite well in every other respect, and getting fat; mammæ enlarging.

10th.—Ulcers now healing slowly; well in other respects.

18th.—Ulcers quite well. Menstruated to-day.

21st.—The cicatrices on the scalp become covered with a thin scale, which falls off, and leaves the surface tender.

To apply Calomel ointment.

May 1st.—Discharged cured. She is clear in her complexion, fat, and well in every respect.

I saw this patient several months after, and she still continued well, and is so, I believe, at this moment. If she were not, I think she would have returned. This case needs no comment.

Case II.—Williams, aged 25, ruddy complexion, short, stiffly built, was admitted April 27th, 1837, under the care of Mr. Champney. The left testicle is twice its usual size, hard, but not painful; the throat is red, and here and there covered with a yellow slough; the uvula is partly destroyed. A portion of the right side of the tongue, near its root, is united to the palatal arch of the same side. He has had an irregular ulcer with jagged edges, having an inflamed margin, on the radial side of the left arm. It commenced with two or three tubercles, which ulcerated and coalesced. He is in moderate health. Four years ago he had a chancre, and was salivated; and a few months ago he contracted a gonorrhœa.

To take six grains of the Iodide of Potassium, three times a day, in Infusion of Calumba.

May 13th.—Discharged for misconduct. His wounds had been gradually improving.

19th.—Came as an out-patient, and was dismissed cured.

Case III.—Charles Carter, aged 24, of middle height, light hair, and very deaf, was admitted under the care of Mr. Champney, on March 2d, 1837. On the upper lip, immediately beneath the *septum nasi*, is an ulcer nearly the size of a half-crown: it is covered with a thick scab, formed of cup-like prominences, and presenting a rupious appearance. The skin around it is of a deep-red, presenting a vivid inflammatory blush. The alæ of the nose are similarly inflamed, and the lining membrane is covered with rupious scabs. On account of his deafness, no history can be obtained; he acknowledges having had a clap; the uvula is nearly gone.

To take four grains of the Iodide of Potassium, three times a day, in any bitter infusion; and Blue-pill and Extract of Colocynth, as a purgative, occasionally.

March 10th.—The thick scab has come off the lip, and the surface below is healthy.

15th.—The inflammatory blush has disappeared, and the margins of the ulcer are healing; the nose has also regained its natural colour, but is still enlarged.

17th.—The centre of the wound has a thin light-coloured scab upon it. The nose is now of nearly its natural size.

24th.—Ulcer healing rapidly; nostrils nearly free from scab; health good.

April 11th.—Ulcer quite well.

15th.—Ulcer still well.

Omit the Iodide.

20th.—Continues perfectly well. Dismissed.

Case IV.—This is another "sarsaparilla" case. Mary Brown, thin,

bloodless, and with nasal voice, has ulcers in the throat, and nocturnal pains. She has taken mercury for a syphilitic disease. She was admitted an out-patient on August 20th, 1838, and took first the simple decoction of zarsa; then Hudson's syrup, with lime-water; and lastly, the decoction, with half an ounce of the extract to each pint. She got no better, and was made an in-patient on November 1st. For two or three weeks she took five grains of the iodide of potassium in a wine-glassful of the decoction of zarsa, and in two or three days there was a manifest improvement; the appetite returned, the nights were good, and the ulcers in the throat looked clean. She was convalescent on December 22d, when she was made an out-patient, and in a few days was discharged cured. She has had no relapse up to the present date.

Each case would be but a repetition of the other, or I could easily multiply them. The iodide of potassium is a specific in such cases as I. and IV., if it be genuine, and given regularly and in sufficient doses. The shortest time in which I have seen an ulcerated throat healed is 18 days. In cases in which there is sallowness, emaciation, syphilitic ulcers, and where mercury has previously been given, I have never seen it fail. When the osseous tissues are affected, the health is as rapidly restored; but, of course, the dead or carious bone requires the usual time for exfoliation.

In venereal eruptions it has not been found quite so successful as in the preceding cases, but required its action to be quickened by small doses of blue-pill or calomel.

The iodide has been very freely administered in other forms of disease. In cutaneous eruptions it has been signally successful. A youth, aged 19, the son of a country shoemaker, came into the hospital with a chronic impetiginous eruption of sixteen years' standing. Every kind of medicine usually prescribed had been tried without success, in addition to a course of the Harrogate waters. He was admitted under the care of Mr. Champney, on Feb. 16, 1837, and was dismissed cured April 16. He took three grains only of the iodide, three times a day, for the first month, and his cure was proportionally slow. He took blue-pill and extract of colocynth occasionally, and used an ointment composed of half a drachm of the chloride of mercury, and an ounce of the dilute ointment of the nitrate of mercury.

Given in ptyalism it seemed to have the effect of increasing the discharge; but it has never excited the salivary glands when given alone. Dr. Simpson has prescribed it with considerable success in hypertrophy and other diseases of the heart, which constitute a large proportion of our cases. It has also been given with success in rheumatic, neuralgic, and paralytic affections. It has been tried with varying success in visceral enlargements, and almost every form of chronic organic disease.

In scrofulous diseases of the joints it has been found very useful. Five grains in any bitter infusion, given with five grains of the pil. ferri co., or with ferri carbonas, three times a day, and a grain or two of blue-pill at night, has been the most successful. In a languid state of the system, with scrofulous tumors or abscesses, this treatment has "acted like a charm." The same circumstances which have enabled me to compare the remedy with zarsa in venereal diseases, have also enabled me to compare the result of each plan of treatment in diseased joints, of which we have numerous cases, presenting every phase of the affection. The result of my observations is, that the iodide is much to be preferred. Its effect upon the appetite and general health is marked and immediate, while that of zarsa is slow and uncertain; indeed, there are so many modifying circumstances occurring during the lapse of months, that we cannot know what are its real effects.

It has appeared to me that the modes of action of iodine and the iodide of potassium differ considerably. Dr. Belcombe sometimes prescribes the tincture of the former, and, I think, without the happy effects (at least in venereal eruptions and scrofulous tumors) which follow the use of the latter. The first effect of the iodide is to increase the appetite, occasionally almost to bulimia. Sometimes there is gastrodynia; now and then there is diuresis; the pulse is quickened; and there are other febrile symptoms. These, however, do not indicate an omission of the medicine; they generally disappear spontaneously, or

after a slight diminution of the magnitude or frequency of the dose. The other effects may be learned from the cases. I never knew it produce any bad symptoms, and many patients have taken daily, under my eye, from fifteen to twenty grains during a few days, up to twelve or fourteen weeks. A five-grain dose seems as useful as one of ten or twelve grains; but I think three-grain doses (or less) are very inefficient.

The superiority of iodide of potassium to zarsa, in the treatment of secondary syphilis, is now placed beyond all doubt by so much concurrent testimony; and it would be a worthy object of inquiry to determine how far it may be made to supersede the latter expensive medicine in common cases in which it is now freely used, as in diseased joints and scrofulous abscesses. The period of stay of venereal cases in hospital is shortened, on an average, at least two-thirds, when treated with the iodide; this of itself is a great saving, and if the same abbreviation of time be not effected in cases of diseased joints, yet if it cure with efficiency and celerity only equal to that of zarsa, the difference of price in the two medicines is well worthy of consideration. The following statement will give some idea what a large item the cost of sarsaparilla is in the medical expenses of so small a hospital as this:—

Year.	Cost of Zarsa*. £	s.	d.	Cost of other Drugs. £.	s.	d.	Gross No. of Patients.
1836	49	13	0	127	18	7	655
1837	27	11	7½	106	17	10½	964
1838	23	8	8	104	11	4	1016

It ought to be remarked, that four-fifths of the zarsa consumed in the hospital is prescribed by one of the medical officers; if the others ordered it in the same ratio the cost would be more than doubled.

The subject of Case I. took an ounce of Hudson's syrup of zarsa daily, for many weeks, in decoction; and opiates regularly at night. The lowest price of this syrup is, I believe, one shilling per ounce. At the time she took it, the cost to the hospital was 1s. 3d. The iodide of potassium, which she subsequently took, per day, cost a fraction of a penny.

If the iodide could be substituted for zarsa, in cases of diseased joints, as well as of syphilis, it would be a very moderate calculation to state the saving at 20 per cent. in the drug account, and another 20 in the house expenses even of this hospital, where the consumption of zarsa, and the number of patients using it, is comparatively very small. If the cost of the zarsa consumed in the public hospitals throughout England were made public, the amount would be astounding. This subject is very worthy of further notice.

I am, sir,
Your obedient servant,
THOMAS LAYCOCK.

County Hospital, York,
Feb. 1839.

STRANGULATED HERNIA.

SPONTANEOUS RECOVERY AFTER THE SYMPTOMS HAD EXISTED FOR FOURTEEN DAYS.

To the Editor of the Medical Gazette.

SIR,

YOUR insertion of the following at your convenience, will oblige

Your most obedient servant,
ANDREW MACLELLAN.

Liverpool, South Dispensary,
Feb. 22, 1839.

H. B., an infirm and emaciated woman, aged 73, and subject to an old asthma, applied at this Dispensary on the 24th of October last. On visiting her, a hernial tumor, about the size of a hen's egg, was discovered in the right groin, that had existed for about 50 years. The tumor, she said, had from the first been irreducible, subject to occasional enlargement, which enlargement, up to the present instant, she had never failed to reduce by the application of her own hand. It was slightly elastic, having the feel of intestine rather than of omentum, and only admitted of partial diminution on continued pressure.

* Of the root, extract, and syrup.

There was considerable anxiety and restlessness; sense of painful constriction across the abdomen; nausea and vomiting of the fluids she drank, mixed with bile, and afterwards with fæces. Constipation of several days' duration; skin covered with a clammy perspiration; tongue furred and dry; thirst urgent; pulse sharp and accelerated; and respiration oppressed. There was hardly any pain at the neck of the tumor, and no tenderness of abdomen. The taxis failing to produce any permanent effect, a consultation agreed on the propriety of an immediate operation.

Nothing would induce the patient to submit. She had been so long habituated to the tumor, that she could not understand its connexion with her suffering, and after every thing had been urged that could be advanced, she determined rather "to die than be cut." No other surgical resources affording any grounds of hope, an unfavourable termination seemed hardly doubtful, and a corresponding prognosis was accordingly given. The symptoms, particularly the stercoraceous vomiting, daily increased, and in a few days subacute abdominal tenderness supervened. The powers of life were rapidly sinking, when, on the eighth day after the operation had been proposed, there occurred a marked remission of all the constitutional symptoms; the vomiting ceased; the tongue moistened; the pain disappeared; she felt hungry, and partook of some solid food, expressing herself relieved in every respect with the exception of the constipation. It seemed not improbable that the delusive remission known to attend the occurrence of gangrene of the intestine, had now set in; yet the continuance of the favourable change in the constitutional symptoms, added to the absence of any change either in the consistence or appearance of the tumor, removed all ground for this conjecture. She continued to improve for three days, when I was surprised by a message to inform me that she had that morning (the fourteenth day of her constipation) passed two copious stools. Ten days after, all remedial means had been abandoned.

On examining the stools they were found to be of healthy consistence; the first pale, but the second in no way unnatural. Warm water enemata were now freely administered, and in the course of 30 hours she passed upwards of a dozen copious evacuations, of healthy consistence. The relief was now complete, yet leaving the patient in a state of dangerous debility. Under the use of suitable means she gradually recovered; the hernia gradually diminished to its wonted size; her bowels continued unobstructed: and she has apparently suffered in no degree from her severe illness.

The obscurity of the nature of the case, the unexpected and fortunate termination of the symptoms, added to the patient's having refused to submit to the operation, when it alone seemed to hold out any hope of recovery, rendered it one of great interest. It was, doubtless, a strangulated hernia, resisting all means short of operation. It was hopelessly abandoned to nature, and a spontaneous recovery ensued. This, if not quite unprecedented, is at least so rare an occurrence as to happen in the experience of but few surgeons.

An explanation of the whole case, free from all objections, is perhaps hardly possible during the life of the patient; but there are considerations which leave me little room to doubt that the strangulation was caused, not by stricture, as is commonly understood by the term strangulated hernia, but the species of obstruction which more rarely occurs—strangulation from fæculent accumulation—"*hernie par engouement des matières.*" In regard to the early history of the case, the age of the patient, and the existence, indeed, of the hernia itself, rendered torpidity of the intestines by no means an improbable occurrence. The patient denies irregularity in regard to her bowels previous to her illness; but how far this can be reconciled with the other parts of the case, will appear below, while every practical man must be aware how little reliance can be placed in the statements on this subject of aged females, especially among the poor. In regard to the order and progress of the symptoms, important considerations arise. The constipation was the first marked symptom, which was soon followed by vomiting, becoming ultimately stercoraceous, without pain and tenderness either in the tumor or abdomen till late in the progress of the case, pain seeming rather to supervene as a remote effect, than to accompany the disease from the commencement. In strangulation from stricture, on the other hand, we natu-

rally expect, and generally find, that the pain at the tumor and abdomen is manifested, if not from the beginning, at least it very early ensues, and the condition of the peritoneum, of which it is symptomatic, speedily terminates fatally if the gut is not relieved by operation. Cases of strangulation from stricture do sometimes continue for several days without peritonitic symptoms, an example of which is recorded in the admirable Surgical Reports of my late clinical teacher, Dr. John Macfarlane, where there was no abdominal tenderness after strangulation had existed for five days, which proceeded from "the feeble and emaciated state of this patient's body." The fact, however, is undeniable, that in strangulation from stricture there is, in general, pain in the tumor, and abdominal tenderness, very early in the case. That the strangulation in question depended on fæcal accumulation appears still more probable from the unlooked-for termination of the symptoms, viewed in connexion with the other particulars of the case. On about the tenth day a marked remission took place; and on the fourteenth day of her constipation the continuity of the intestinal canal was demonstrated by copious fæcal evacuations. The fæces must have been confined during her whole illness, as her ingesta in that time were neither in kind nor quantity at all corresponding to the accumulation which had taken place, diminished as it must have been by the obstinate stercoraceous vomiting. Being so confined, it seems apparent that their existence, in a quantity at least twelve times greater than would form a healthy evacuation, must have resulted from a functional derangement, not inadequate to produce the obstruction in question. The remarkable remission, too, of the symptoms three days previous to the occurrence of the stools, may be reasonably explained, by supposing that the gut had then recovered its continuity, but that the torpidity it had sustained delayed the passage of the fæces between the situation of the obstruction and the anus for three days. The steps of the process of restoration do not admit of satisfactory explanation, but can only be regarded as a remarkable instance of the power of relieving herself, which Nature sometimes shews herself to possess. It is not improbable that the remarkable event was in some degree connected with the emaciation of the patient—that had the same circumstances occurred in a plethoric constitution the rapidity of the symptoms would have anticipated the efforts of nature, and prevented recovery. The practical conclusion to be deduced from the facts are so evident, as to make it unnecessary for me to trespass any further on your valuable space.

DYSPHAGIA, WITH SPHACELUS OF THE GULLET.

To the Editor of the Medical Gazette.

Sir,

I could have wished to have had it in my power to communicate more satisfactory and accurate information relative to the following very interesting case of dysphagia, which has lately occurred to me; but as it was far from my anticipation that the case, even although it did prove fatal, would, upon dissection, open up to our observation such interesting facts, I was thereby deterred from taking daily notes of the case, and have consequently been prevented from laying before you so much of the symptomatology of the disease, in connexion with its pathological condition subsequently perceived, as would have otherwise been desirable. I shall, however, here give such information relative to the ailment as could be at the time elicited from the friends. They stated that the patient, Simpson, æt. 56, by trade an engineer, and much addicted to the use of ardent spirits, was confined for a few weeks, towards the latter end of the past year, with what they considered to be influenza, or an extreme degree of general weakness, without, however, being able to define any particular symptom: that about the commencement of the present year he got much better, and was again able to go about. On the 2d of January he became intoxicated, fell, and hurt his side, fracturing, as he thought, some of the ribs (which, however, was not the case). On the 6th he was suddenly seized with a difficulty in swallowing, when I was sent for. At this time he complained of little or no pain in the side which he had a few days ago injured, and the only harassing symptom, and that which gave him most trouble,

was an inability to swallow either a mouthful of food or drink beyond a certain fixed point; which, from his own sensation, seemed to be about two or three inches above the termination of the œsophagus in the stomach. The food or drink attempted to be swallowed did not occasion pain immediately, but which came on two or three minutes afterwards in a very severe form, and, after continuing for five or six minutes, was followed by vomiting, which gave instant relief, and a relief which lasted so long as no attempt on the part of the patient was made to swallow. As there was no symptom referrible to any other organ than the stomach, and as the dysphagia had so rapidly developed itself, I was anxious, if possible, to ascertain the real seat of stricture (for stricture, either spasmodic or otherwise, was, agreeably to the symptoms, certainly present). I for this purpose requested permission to introduce a probang, but was refused. In order, if possible, to relieve any congestion which might have taken place, a few leeches, with counter-irritation over the affected part, were had recourse to; and as little or no food had for several days been taken, enemata of nourishing soup were administered. The symptoms continued pretty much in the same state, only that the dysphagia had become more complete; the pulse, which had been all along remarkably feeble, now gradually sunk along with the strength, till he expired (one might say from pure inanition as a result of disease), fifteen days after the dysphagia had manifested itself.

Autopsy.—After having sawn through the cartilages (which had become ossified), I proceeded with the assistance of a medical friend to examine the state of the thoracic contents, when we found that both lungs were perfectly healthy, although old adhesions bound the pleura pulmonalis of the left side to the corresponding costal pleura. Upon removing the lungs, it was now observed that there existed a large aneurismal sac of the thoracic aorta, which, upon close inspection, was found entire, and to contain within it so great a number of fibrinous laminæ as completely to fill its cavity. It embraced the whole of the thoracic aorta, from the going off of its vessels till nearly its passage through the diaphragm, and was found to press and push aside the gullet exactly at the spot corresponding to the sense of constriction experienced by the patient during life. Upon turning our attention more particularly to the state of the gullet, we observed that for about the space of four inches, agreeing with the seat of pressure before mentioned, it presented a black gangrenous aspect, which, when more minutely examined, left no doubt in our minds that it had become sphacelated, being so soft, and I may almost say pultaceous, as to break down before the point of the finger. A portion of the œsophagus, for the space of two inches above, and as many below the seat of compression, was thickened and congested, as was the almost entire extent of the mucous lining of the stomach. The valves and other vessels of the heart (including the portion of the aorta above and below the dilated space) were natural; and there was nothing particularly remarkable about the heart itself, excepting slight hypertrophy of the left ventricle without dilatation. All the abdominal organs were healthy.

The case which I have now related is one peculiarly interesting in several features. When we reflect upon the appearances which dissection revealed to us, it is not easy to reconcile the morbid products detected after death with the non-existence of a well-marked symptomatology during previous years of life, though the symptoms occurring shortly prior to death will be readily recognized to agree perfectly with the pathological appearances afterwards observed. Why, one may ask, should the dysphagia so suddenly and rapidly have manifested itself, without previous evidence having been given of an exciting cause, when that mechanical cause must, in all probability, have existed for many years before? Are we warranted in assuming that, previously, the contents of the aneurismal sac had so far yielded to the resistance offered by the bolus in its passage along the gullet, as to produce little or no mechanical obstacle to its entrance into the stomach? And again, might not the sudden development of dysphagia be attributable to some intestinal change occurring within the sac, (no matter upon what cause it depended), say, a gradual separation of the fibrinous portion of the blood from its other constituents, the result of a pre-

vious very reduced state of the circulation, to such an extent as necessarily to cause a certain degree of compression, when the deposition of fibrin had proceeded to a certain length? Hence, the first manifestation of the dysphagia, which gradually became more complete as the sac became more full of laminæ. Another very important lesson to be derived from a perusal of this case, is to be gleaned from the fact, (as shewn by dissection), of the existence of a very large aneurism, without developing during life any symptoms at all commensurate with the disease, or such as would lead one to employ auscultation as a means of determining the state of the heart's action. I am not aware that any notice has been previously taken of the gullet having undergone such degeneration in connexion with thoracic aneurism, as a consequence of pressure, (for in my opinion it could not be the result of a previous inflammatory action having existed): neither the symptoms during life, nor the detection after death, of any of the more prominent modes of inflammation, seem to warrant the latter assumption; while, on the other hand, I think, we found sufficient testimony to the fact of the sphacelus being the consequence of mechanical pressure, in witnessing a tumor, exerting such a local compression, as completely to approximate the parietes of the gullet, and the sphacelated portion of the œsophagus, exactly corresponding in extent, to the amount of compression.

By giving publicity to the present case, through the medium of your journal, you will oblige, sir,

Your obedient servant,

THOS. WILLIAMSON, M.D.

Leith, 25th February, 1839.

FRACTURE OF THE ACETABULUM.

THE WANDERING PIPER.

To the Editor of the Medical Gazette.

SIR,

As considerable interest has been excited by the case of the individual usually known by the name of the "wandering piper," I have been requested to communicate it to the profession and the public.

Nearly a month since, at the desire of the Rev. Hugh Prior, I admitted this person as a patient into Mercer's Hospital. I was informed that he was of a station in life much superior to that of his occupation; but that, for reasons which could not be explained, he was not permitted to avail himself of his pecuniary resources, but was required to subsist either on the profits of his assumed trade, or on charity. His disease was phthisis pulmonalis, combined with acute inflammation of the hip-joint. He had received a severe injury by the upsetting of a mail-coach some years since, and had been then under treatment some months for (as it was supposed) fracture of the neck of the femur. Since that time he had been lame, but still able to take a great deal of exercise on foot, both here and in America. The acute attack commenced about two months ago. Just before his admission into the hospital, he had been under the care of Sir Philip Crampton, who often expressed his surprise at the slight amount of the shortening of the limb, which did not exceed half an inch. This circumstance was explained by the dissection.

As there was nothing unusual in the progress of the case up to the time of his death, on the 17th February, nor in the post-mortem appearances in the thorax, I shall only allude to those of the hip-joint, the dissection of which was performed on the 19th instant, in presence of my colleagues, Messrs Read, Auchinleck, Palmer, and Tagert.

There had not been any fracture of the femur, although the state of that bone, forming the disease usually termed *morbus coxæ senilis*, presented at first the appearance of one. The os pubis had, however, been fractured, and the edges of this fracture, in overlapping, had caused, by their union, the rim of the pelvis to be shortened nearly an inch between the symphysis pubis and the inferior spinous process of the ilium. What was very remarkable, a portion of intestine had adhered to the bone, probably being pinched between the ends of the fracture, and had remained permanently attached within a bony cavity, presenting the appearance of a hernia. The intestinal tube was, however, pervious; but the large intestines were of much smaller calibre than those usually termed "the small." The patient had not laboured under any abdominal symptoms during life.

The ischium appeared also to have been fractured, and to have become united. The femur had obviously pro-

truded through the rent in the acetabulum, and had entered the pelvis. A bony case had been formed for its head; but a portion, about the size of a shilling, was uncovered, except by ligament. The round ligament of the joint was perfect, and the other ligaments were thickened. Ulceration of the cartilage of the head of the femur had obviously commenced; and to this, and probably to the irritation of the obturator nerve by a spicula of bone which had formed about it, the excruciating torment which the patient lately suffered might be attributed. Sir Philip Crampton, Drs. Colles, Graves, Harrison, Adams, and others, who were present when I exhibited the parts at the School of Physic, just after the examination of the body at Mercer's Hospital, concurred in opinion as to the extreme rarity of such an injury, and of such consequences.

I remain, sir,
Your obedient servant,
CHARLES LENDRICK, M.D.

Dublin, Feb. 25, 1839.

P.S. I have long thought that fracture of the acetabulum, whether or not interfering with the inner part of the pelvis, occurs in those obscure cases of injury, where, with inability to use the limb, and an obvious crepitus, some of the characters of fracture of the neck of the thigh-bone are wanting. A medical gentleman, attended by Drs. Croker, Cusack, Stapleton, and myself, last summer, had met with an accident which it is not improbable was of this nature.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Elements of the Pathology of the Human Mind. By THOMAS MAYO, M.D. F.R.S. Physician in Ordinary to His Royal Highness the Duke of Sussex; Fellow to the Royal College of Physicians, and late Fellow of Oriel College, Oxford. London, 1839. Small 8vo. pp. 182.

THE chief practical point insisted upon by Dr. Mayo, is the necessity of studying the phenomena of the human mind, in order to prevent or cure its aberrations; the former being the office of the teacher, the latter of the physician. For instance:—

"In our endeavours to regulate human character, one of our greatest difficulties is supplied by the efforts *unintentionally* practised to deceive us. Thus, men are constantly disposed to assume those moral qualities which they wish to think themselves possessed of.

Cases may arise in which two qualities shall really co-exist, bearing such a relation to each other that the presence of the one shall indispose us to suspect the presence of the other. An unsound philosopher, who overlooks this occurrence, may place his friend or pupil in a very false position. I have thus seen a young man, who happened to be at once timid and conceited, pampered into a very erroneous estimation of his own powers, under the supposition that he required excessive praise, his timidity veiling his conceit. I have seen another person, in whom high health and buoyant spirits concealed much timidity and indecision, weakened yet more in his confidence by a friend, who studiously impressed him with the belief that presumption was his leading defect. If we consider the pulmonary or hepatic tendencies of a son, in making choice of a profession for him, it is not unreasonable that we should make this choice with some reference also to the qualities of his head or heart, in relation to mental disease. As this choice is usually made, it is often very mischievous. When made with *any* reference to character, it is often determined by an exclusive consideration of active tendencies. Ambition qualifies a man to be a statesman or lawyer; love of the acquisition of wealth fits him for commerce. But ambition may flourish in the ungenial soil of a sensitive, irresolute, anxious character. The love of wealth is, as we have suggested, compatible with intense fear of poverty.

In each of these cases the active tendency cannot be gratified without some risk in relation to the passive condition of the respective minds."—(Pp. 89-90.)

The following remarks are sensible, and show the practised physician:—

"At the commencement of the second stage, the separation of the patient from his family and friends generally becomes indispensable. The value of this mea-

sure is attested by long experience, and may be justified by adequate reasons.

First, the total change of associations often thus effected.

Secondly, the calm and unimpassioned management which the patient may experience from strangers, compared with that of relations or old friends, whose kindly sympathies, and sometimes their unkindly sympathies, might be prejudicial to him.

It will be readily granted that the affectionate sympathies of friends and relatives may be exciting to the patient. But apprehensions of their unkindness may appear to be based upon a low estimate of human nature. It must, however, be remembered, as pointed out in the early part of this work, that the moral department of mind generally suffers first under insanity. Thus a thousand occasions of painful and offensive intercourse have generally arisen between the insane person and his relations, before he has obtained the excuse which *admitted* insanity affords. It must again be remembered, that as the affections of relatives is stronger, so their feelings are more alive to irritating conduct; and therefore that they are likely not to command their looks, their words, their gestures, with the calmness requisite for such management.

Thirdly, it is often important to the comfort of the insane, in his intercourse with his relatives, when his recovery shall have been established, that they should not have been his keepers during his malady.

Fourthly, the separation, recommended on the above grounds, is also desirable, as being a direct instrument of the patient's recovery; and this leads me to a very important consideration in regard to the latter object. In this disease, which *appears* to paralyse every valuable energy of the human mind, the extent to which the patient contributes to his own recovery has not been sufficiently recognised. As the mist of delirium becomes less thick, he begins to recognise his state as one of separation and banishment; he does not indeed admit the reasonableness of this banishment, but he is desirous of terminating it. He now gradually discovers, that certain trains of thought and forms of expression are objected to by his medical attendants; he endeavours to avoid those trains of thought and those expressions; for on his doing so he is led to understand that his liberation and re-union depends.

Meanwhile the gardens and pleasure-grounds of an establishment tranquillize. Few could afford to purchase such advantages, as a well-regulated establishment affords, in any other form. The substitute afforded by private lodgings is frequently inadequate. They do not allow sufficient room for the exercise of the patient, who must not be brought into contact with the public."—(P. 97—100).

On the whole, this is a judicious little treatise, and will add to Dr. Mayo's reputation.

Vital Statistics of Glasgow.—I. *Statistics of Fever and Small-pox prior to* 1837.—II. *Statistics of Fever for* 1837.—III. *Remarks suggested by the Mortality Bills.* By Robert Cowan, M.D., one of the Physicians to the Glasgow Royal Infirmary. Read at the Statistical Society of Glasgow, 28th April, 1837, and 17th May, 1838. Glasgow, 1838. 8vo. pp. 54.

This work is short and pithy; yet as few are inclined to study statistical details, we feel assured that many of our readers will thank us for presenting them, as briefly as possible, with some of the conclusions deduced by the praiseworthy industry of Dr. Cowan.

Fever.—This disease has been steadily increasing in Glasgow since 1816, but particularly within the last seven years. This increase did not proceed from famine or distress, but took place during a period of unexampled prosperity. Fever patients were about fifty-five out of a hundred of all the patients treated in the hospitals, besides those visited by the district surgeons within the burgh.

The number of fever patients in Glasgow is far greater in proportion to the population than in Edinburgh, Manchester, Leeds, Newcastle, and Gateshead.

In Liverpool the number is large, but smaller than in Glasgow:—

"In Liverpool, with a population of 189,242, 1700 cases of fever were treated in the hospital during 1836; but many of these belonged to the seamen of the port, a numerous class of its population."—(P. 11.)

In 1836 the population of Glasgow was 244,000, and the number of fever patients treated in the Royal Infirmary was 3125.

The number of persons attacked with fever in Glasgow, is supposed by Dr. Cowan to have been as follows:—

In 1835	6,180
1836	10,092
1837	21,800.

This extraordinary liability to fever is thus accounted for by our author:—

"Many of the causes of the production and propagation of fever must be ascribed to the habits of our population; to the total want of cleanliness among the lower orders of the community; to the absence of ventilation in the more densely peopled districts; and to the accumulation, for weeks or months together, of filth of every description in our public and private dunghills; to the over-crowded state of the lodging-houses resorted to by the lowest classes; and to many other circumstances unnecessary to mention."—(P. 13.)

He thinks that more accommodation should be provided for fever patients, and that "a few thousand pounds, judiciously expended in opening up the districts most densely populated, and in other obvious ways, would greatly tend to alleviate the pressure of our heaviest municipal tax — the 'Fever tax.'"—(P. 14.)

Out of 2257 patients admitted into the Fever Hospital, 290 died, or about 1 in $7\frac{3}{4}$.

The exanthematous eruption, supposed by French writers to be characteristic of typhus fever, appeared in 1669 cases out of the 2257.

Our author believes the disease to be contagious:—

"All the gentlemen who have acted as clerks in the Fever Hospital, for many years past, have been attacked with fever, unless they had had it previously to their election. During last year twenty-seven of the nurses of the establishment were seized with fever, and five of them died. Several of the students have been affected. One gentleman, who acted as apothecary, died in the house; and if I have escaped, it must be attributed either to being past the period of life at which fever usually takes place, or to my being secured by having had two dangerous attacks at an earlier period of my career, when acting as physicians' clerk in the infirmary, during the epidemic of 1816-17, and 18. These facts are strongly corroborative of the opinion that fever is contagious."—(P. 26.)

No doubt they are; yet we must admit that the contagion of typhus depends chiefly on the accumulation of cases within a small space, and that it is by no means strongly marked when cases are isolated. Dispensary physicians, and students attending general hospitals, are not very frequently affected by it.

Small-pox. — Dr. Cowan having shown that small-pox is decidedly on the increase in Glasgow, is of opinion that it is owing to the neglect of vaccination, and not to the occurrence of small-pox after vaccination. It appears, that of 1050 persons who died from this disease in 1835-6, 953 were under five years of age, so that it is more than probable that vaccination had not been performed. The mortality among adults is almost exclusively confined to the Gaelic part of the population.

General mortality.—This, also, is on the increase. Thus, the rate of mortality, omitting fractions, in 1822 was 1 in 41; in 1827 1 in 34; in 1834 1 in 33; in 1835 1 in 29; in 1836 1 in 26; in 1837 1 in 24. In 1832, the cholera year, it was 1 in 20*.

The influx of labourers of late years has diminished the relative proportion of the wealthier to the poorer classes, and is, of course, one cause of the increased mortality. "In 1819 there was one Irish person out of every $9\frac{67}{100}$ of the inhabitants; and in 1831, one out of every $5\frac{65}{100}$."—(P. 6.)

It is clear that this frightful rate of mortality can be mitigated only by the most active benevolence; hospitals must be built, drains formed, and dunghills removed; and the poor must be taught to clean and whitewash their houses. Whether these objects can be accomplished by voluntary subscriptions, or whether recourse must be had to assessments, is a local question. The evils are so enormous that one might imagine there must be a slowness to subscribe in the good town of Glasgow. Yet, perhaps, the rich are scarcely acquainted with the condition of the poor; as Miss Edgeworth says, one half of the world does not know how the other half lives.

* At page 45 it is stated to have been 1 in 21·67.

MEDICAL GAZETTE.

Saturday, March 2, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

EFFECTS OF THE TAX ON WINE.

A CURIOUS incident occurred a few months ago in one of the counties bordering upon Wales—Cheshire, if we recollect aright. As we took no note of the circumstance, our memory may play us false in one or two of the minor details, but the principal points will be found quite correct. It happened, then, on a raw and gusty evening in the month of October, 1838, that a tumultuous horde, consisting entirely of the softer but not more silent sex, was seen advancing towards the residence of the Rev. Charles Dennett. The worthy pastor had just donned his night-cap, and was not a little surprised when he heard the Mænad cries of this Anglo-Celtic mob; nor a little alarmed when he found that these cries were directed against himself. It would have been impossible, even for the most unclassical man, not to think of the fate of Orpheus on such an occasion. Nevertheless, he mustered his spirits as he best might, opened the window, put out his head, and asked what they wanted? It may easily be imagined that it was some time before an answer could be obtained; or rather, that so many replies were yelled out in Welsh and English, that, like opposite quantities in algebra, they destroyed each other, and presented the ear with a mere zero. At last, when most of the fair bawlers were tired out with their attempted explanation, the culprit was allowed to hear his crime from the leader of the chorus. It was a fortunate circumstance, indeed, that the troop brought no scaling-ladders with them, else had they speedily stormed the apartment of the unfortunate divine, "and taught the rustic moralist to die," in the most literal sense of the words. As matters stood, they were obliged, as we have seen, to parley, and at last informed the accused of his crime. In a speech which he had lately made at the pleasant village of Bixley, *de omnibus rebus et quibusdam aliis*, he had proposed A TAXATION OF WIVES! Now though to monks, Malthusians, political economists, and all the subgenera of skinflints, this might sound very well, it seemed mere madness to an assembly of honest women, and they came to demand untaxed marriages from the reverend speech-maker. His explanation, unlike most of those which take place in a certain House, proved quite satisfactory; and we trust that he is, in consequence, alive and well to this day. It seems that an erratum had crept into the report of the Bixley speech, *wives* being substituted for *wines*. Now though this account entirely satisfied the angry visitors, who wended their way home without further ebullition, we confess that we are not so pleased with it; and though we are glad that Mr. Dennett was not a Malthusian, we could wish that he was not so anti-Bacchanalian. He is probably not aware that the duty on wine is already so high as to act as a prohibitory tax; so that England, although the richest country in Europe, probably consumes less wine in proportion to its population than the poorest. The duty on wine imported into this kingdom is five shillings and sixpence per imperial gallon; with the exception of Cape, which pays only two shillings and ninepence. The consequence of the low duty on Cape is, that it is introduced in considerable quantities, and as it seldom makes its appearance under its own name, we are forced to conjecture that it is chiefly used to mix with better wines, or that, without any mixing at all, it

passes under the more honoured names of Sherry or Madeira. The consequence of the high duty on French wines is, that only 2 or 300,000 gallons per annum are consumed in this kingdom, although the enormous quantity of eight hundred millions is annually made in France. Only one-hundredth part of the wine exported from France is drunk in England; and when we consider the opulence of this country, and the general diffusion of comforts and luxuries among a large proportion of its population, this scanty enjoyment of so agreeable and wholesome a beverage proves with mathematical clearness that the tariff has been fixed injudiciously. Those who are acquainted with the prodigious increase of consumption consequent on lessening a duty which has been screwed too high, will easily admit that if the duty on all wines were lowered to one-third of the present amount, the quantity drunk would be increased tenfold. At present the consumption of wine in the United Kingdom is about a bottle and a half per head in the course of a year, which might surely be multiplied by ten without alarming any man of sense. The middle classes, who are now driven to spirits, might substitute Port, Sherry, or Claret, with great advantage, and in some happier era, even the labouring man, who now rarely tastes wine, except within the walls of an hospital, might get a few glasses out of the 800,000,000 of gallons.

Nay, might we not venture to anticipate a time when brandy shall be admitted at a lower duty than twenty-two shillings and sixpence the imperial gallon? But this is more delicate ground; and lest we should be at once attacked by English distillers, who can now thrust their terebinthinous spirits down English throats, and by the zealous advocates of entire abstinence, we break off. We freely allow it would be desirable that spirits should be supplanted by wine and beer; but if they are still drunk, is not brandy better than gin?

MINERAL AND VEGETABLE POISONS.

In the amusing work of Dr. Caleb Ticknor on Quackery, which we lately introduced to the notice of our readers, there is a chapter on the comparative powers of mineral and vegetable medicines. He observes, that there is a universal disposition among quacks to decry all medicines obtained from the mineral kingdom, while they extol the virtues of vegetable remedies. To judge from Dr. Ticknor's book, every quackish artifice seems to be even more successful in the United States than in England; and among others, the trick of recommending a remedy as being purely vegetable, and therefore quite harmless. He is, no doubt, in the right, in supposing the evil fame of mineral medicines to be due to that noted preparation of mercury with so many names and so many qualities. "Calomel is the great bug-bear; the raw head and bloody bones that has been used by designing knaves and others, who deserve compassion for their weakness, to frighten those who have been selected as fit subjects for imposition. With calomel, all minerals have been dragged in, and received the same sentence of condemnation, for no reason but belonging to the same family—for being found in bad company; or, perhaps, for another reason, deemed sufficient by the ignorant, viz., that they are medicines of great power; and, therefore, are capable of doing injury."

To give up the use of mineral medicines because they have been abused, would indeed be the acme of absurdity; but when Dr. Ticknor compares them to fire and water, and food, and supposes that these might be condemned by a similar kind of logic, he rides a good

argument to death, for mercury and arsenic are not necessaries of life. We must recollect, too, that it is frequency of misuse, and not the bare possibility of it, which lends a sting to popular declamation against mineral medicines, and that if an excessive salivation were as rare in proportion as the destruction of a house by fire, the dread of calomel would vanish. It is the more frequent abuse of mercurial than of vegetable remedies which has given rise to the prejudices that Dr. Ticknor combats; and we scarcely wonder that what Dr. Abercrombie calls "long and ruinous courses of mercury," should be taken advantage of by the quacks of America, who call out "Mineral Doctors," as you would cry "mad dog." Perhaps the only vegetable remedy that has been equally misused is opium; and here the fault is most usually with the patient, who is unwilling to discontinue the soothing drug, and makes opium-eating a portentous continuation of opium-taking.

Dr. Ticknor goes through most of the mineral and vegetable poisons, and touches briefly on the properties of many; but sometimes he allows the advocate's gown to peep out beneath the robes of the judge. Thus he says, when speaking of the sugar of lead, that "those who have used it most, deny its ever producing or being capable of producing unpleasant results." These must be sturdy deniers. Of course he makes out his case, as the most certain and speedy of poisons are to be found in the vegetable kingdom; but it shows how deeply the error must have penetrated when so elaborate an exposition of it is necessary.

Her Majesty has been pleased to grant the dignity of Baronet of the United Kingdom to Dr. Crampton, the surgeon-general in Ireland. Dr. H. Marsh, physician in ordinary to her Majesty, in Ireland, has had the same honour conferred upon him.

NATIONAL VACCINE ESTABLISHMENT.

REPORT FROM THE NATIONAL VACCINE ESTABLISHMENT, FEBRUARY 1839.

To the Right Hon. Lord John Russell, Secretary of State for the Home Department.

Feb. 11, 1839.

My Lord,—The small-pox has prevailed epidemically, and with great severity, not only in England, but also in a considerable part of the continent of Europe, since our last report.

It seems, from the history of this disease, that it has recurred epidemically once in 12 or 14 years ever since its first introduction into these islands, and always with extraordinary violence and destruction of life; so that 45,000 persons are said to have died in one of these epidemic years before inoculation was introduced, at the begining of the last century. Since that practice was brought here the loss of life by small-pox within the bills of mortality was 5,000 annually; but since vaccination has superseded inoculation, the number of deaths has decreased gradually, until it amounted to only 200 in the year 1837. In the course of the year which has lately terminated (during which small-pox prevailed epidemically) there have died 800 of this disease; not more, after all, than one-sixth of the number of those who died annually during the prevalence of inoculation, notwithstanding the increased population of the metropolis and its neighbourhood. Surely this implies some generally protective influence, and our confidence in the efficacy of good vaccination remains unabated. We are indeed convinced that the indiscriminate vaccination which has been practised in this country by ignorant and unqualified persons, with but little or no regard to the condition of body of the persons to be vaccinated, to the selection of the vaccine lymph, or to the progress and character of the vesicle to be formed, are to be regarded as amongst the main causes of the occasional failure of vaccination; and we are sorry to hear an anxiety expressed that a recurrence should often be made to the disease of the cow which first supplied the genuine protective matter; for, in the first place, it is not in the nature of any other communicable virus to degenerate and lose its influence; and, in the next, we have the opportunity of bearing our most ample testimony to the continuance of the efficiency of the original vaccine lymph introduced by Dr. Jenner through nearly a million of subjects successively, of whom many thousands have been exposed with

entire impunity to small-pox in its most malignant form; and though we ourselves have taken a good opportunity more than once or twice of recruiting our stores with fresh genuine matter from the cow, yet we think it right to discourage an indiscriminate imprudent resort to this expedient; because the animal is subject to more than one eruptive disease, and a mistake might possibly be made in the selection of the proper pustule, by an inexperienced hand.

We have vaccinated by our several appointed vaccinators, 18,659 persons this last year, and have sent out to various parts of the world 203,818 charges of lymph; the former amounting to 6,241 more than have been vaccinated in the metropolis and neighbourhood in any former year, and the latter exceeding distributions of lymph from the National Institution by 79,097 charges.

(Signed) HENRY HALFORD,
President of the Royal College of Physicians, President of the Board.

HONS. LEIGH THOMAS,
President of the Royal College of Surgeons.

THOMAS WATSON,
Senior Censor of the Royal College of Physicians.

CLEMENT HUE, M.D.
Registrar.

CLINICAL LECTURE,

Delivered at University College Hospital,

By SAMUEL COOPER,

Senior-Surgeon to the Hospital, &c.

GENTLEMEN,—The immense population of London and its suburbs, consisting of about one million and a half; the infinite variety of occupations in which that population is engaged; the severe accidents and diseases to which many of those employments expose parties engaged in them; the great number of hospitals and medical schools; the activity, competition, and emulation constantly prevailing in them; the numerous societies for the discussion of medical subjects; and the opportunity which students of one hospital enjoy by the courtesy of the profession of occasionally visiting and noticing what is passing in all the others; are several important advantages which, I think, must long continue to render London almost as much the great emporium of surgery in the British dominions, as it is of commerce. I say this, however, with every desire to acknowledge the merit of the Provincial schools, which, as preparatory ones, offer great advantages to students resident in the country; but no greater mistake prevails than the idea sometimes promulgated, that gentlemen, whose education has not had the advantages of this metropolis, generally pass through their examination at the College with as much credit as others who have had that advantage.

From such a multitude of different cases as are incessantly taking place in a population like that of London, many of a most interesting kind must be continually presenting themselves for admission into the hospitals, where, by making us acquainted with new facts, or bringing under our notice unexpected and unrecorded circumstances, such cases, united with others from various sources, have the effect of greatly extending the limits of pathology and practical surgery. How many cases have I seen in this hospital, during the last four or five years, attended with circumstances and peculiarities not recorded, nor adverted to, by any of the highest authorities! The following observations, with others which I may from time to time record, will prove that what has now been stated is not without foundation:—

Strangulated Femoral Hernia — Operation — Cysts in the Fat under the Fascia Propria.

Mary Eggleston, æt. 66, admitted Dec. 19th, 1838. She is a washerwoman, who has had several children, and has been the subject of a femoral hernia of the right side for several years. She attributes its first occurrence to exertions made in mangling. Formerly she wore a truss, but discontinued its use about four months ago, since which period, until the day but one before her admission into the hospital, the tumor never reappeared. On the morning of the 17th, however, in consequence of her having made considerable exertions, the hernia descended again.

On the 18th, as the tumor was painful, she consulted Mr. Dore, a surgeon in my neighbourhood, who had recourse to the taxis, and administered some castor oil and other medicines. The taxis did not succeed; but one evacuation from the rectum was obtained. In the course of the night the pain in the tumor became more severe, and vomiting came on. On the morning of the 19th the patient had a scanty motion, which afforded her no relief. The vomiting now became more frequent and distressing; nothing could be retained in the stomach, and hiccough was added to the other symptoms.

Mr. Dore called upon me on the evening of the 19th, and asked me to receive her into the hospital, to which request I immediately acceded.

Symptoms on admission.—The countenance was pale and anxious; the stomach retained nothing that was put into it; and there was a frequent and annoying hiccough. In the right groin, a tumor of

about the size of a pigeon's egg was detected below Poupart's ligament. It was tense, painful when handled, and lay with its greatest diameter in the direction of the fold of the groin. I pressed upon the abdomen, but it gave no pain—a very favourable circumstance, as denoting that peritonitis had not yet made any dangerous progress. The pulse was 90.

My house-surgeon, Mr. Carter, tried the taxis in vain; and an ultimate trial of it was made both by Mr. Quain and myself, after the patient had been made faint by being put into a warm bath of 98°.

Operation.—I performed the operation at 9 o'clock in the evening, about two hours after the patient's arrival at the hospital. The first incision was begun at Poupart's ligament, and carried downwards and outwards directly over the centre of the tumor. On opening what appeared to me to be the fascia propria, I observed that two or three drachms of clear serous fluid escaped—an occurrence which, I believe, is not noticed by the best works on hernia, though Sir Astley Cooper informs me that he has met with it in practice. Then, on laying open the supposed fascia propria, a large mass of granular fat presented itself, which had much of the appearance of hypertrophied omentum. The finding of a mass of adipose substance in this situation, being rather common in fat subjects, would have occasioned no perplexity; but another circumstance, which was entirely new to me, and so far as my inquiries extend, has not been described in any treatise on hernia, was the presence of cysts in this adipose substance, a portion of one of which, projecting beyond the surface of the granular fat, and having a darkish appearance, looked very much like a piece of bowel enveloped in protruded omentum, and intimately adherent to it. I first tried to separate the adhesions with a scalpel, but found this quite impracticable with any degree of safety to the intestine, if it proved to be such. The texture of the protruded portion of cyst was then closely examined, and a very slight appearance of transparency was perceived in it when the candle was held on one side of it. This circumstance was remarked by Mr. Carter, and it convinced me that the part could not be intestine. I determined, therefore, with the concurrence of my friend, Mr. Quain, to puncture it; and thus about a drachm of fluid, which was not perfectly clear, was discharged. The cavity from which it came was next examined with a probe, and found to be completely circumscribed.

I then dissected carefully more and more deeply through the mass of adipose substance, and arrived at another similar cyst of a darkish colour, which was also opened, and at length the true peritoneal hernial sac exposed. As soon as this had been opened, a small quantity of turbid fluid gushed out, and a piece of intestine, of about the size of a walnut, and of a chocolate colour, presented itself. The stricture was now divided upwards and inwards, and the intestine reduced.

The wound was then dressed, and a compress and spica bandage applied. An injection was thrown up the rectum, and an effervescing draught given, with a few drops of tinct. opii. At 12 o'clock, P.M. the patient fell asleep, and did not awake till 2, when she became very sick, and had a motion.

20th.—Pulse 90; sickness diminished; no pain nor tenderness about the abdomen. At 5, P.M., as her pulse had risen to 100, twelve ounces of blood were taken away, which proved to be buffy and cupped.

Suffice it to add, that all functional disturbance soon ceased, and that, with the aid of one more bleeding, and medicines for the relief of a severe cough, the patient recovered, without having had, subsequently to the operation, any very dangerous symptom.

The peculiarity of this case excited, at the time of the operation, a suspicion that there might be two hernial sacs; but the account which I have given seems to me the correct one; and it must appear to you, gentlemen, as it certainly does to me, that the presence of cysts in the adipose substance, which lay between the fascia propria and the hernial sac, constitutes the most interesting feature of this example of femoral hernia. I do not find such an occurrence noticed by the best writers on the subject; and as it may take place again, and cause perplexity, I deem this explanation of it to you, and even the public record of it, in some form or another, a matter of duty.

Sir Astley Cooper acquaints me, that he has never seen any instance of cysts in the fatty substance within the fascia propria; nor has he ever met with any case of protrusion of two hernial sacs through the crural ring.

The only case which I know of, as resembling that which I have now related, was met with by Mr. Morton, in the dissecting-rooms of University College, singularly enough, a few days after the foregoing operation. The following is an extract from notes which this intelligent surgeon made of what was observed:—

"While dissecting the inguinal region in the body of an old female, the subject of crural hernia on both sides, we found a small cyst, of the size of a walnut, lying in front of and upon the peritoneal sac of the hernia of the right side. The membrane, forming this cyst, was very thin and

delicate, resembling much of the appearance which is presented by some of the bursæ mucosæ. In the cavity of the cyst was found a small quantity of thin and clear serous fluid. The cyst was situated between the fascia propria and the peritoneal sac of the hernia, apparently in the subserous cellular tissue.

"Dr. Sharpey and Mr. Quain saw and examined the cyst soon after it was exposed."

PATHOLOGY OF BURNS AND SCALDS.

It is to Baron Dupuytren that we are indebted for the first correct and important explanation of the pathology of burns; a subject which, as throwing light on the symptoms, and tending to improve the practice adopted in some stages of these injuries, I deem highly deserving of further investigation. In this hospital, you are aware, gentlemen, that no opportunity has been omitted, of prosecuting the inquiry by post-mortem examinations. The particulars of some of these I now proceed to remind you of.

Scald of the Chest, followed by Ulceration of the Duodenum.

Hannah Latter, aged 8, was admitted December 18, 1838. About five weeks prior to this date, she met with the accident, for which she was attended by a private practitioner, who covered the injured parts with flour. The case went on promisingly for three weeks, at the end of which she began to void a great deal of blood from the rectum. At the time of her admission she was in a most reduced and emaciated condition, and died on the 20th.

Post mortem appearances: Abdomen. — An ulcer, of about the size of a shilling, in the duodenum, just beyond the pylorus; the deficiency in the parietes of the bowel being supplied by the subjacent portion of the pancreas. Blood was found in various places within the small intestines.

Chest.—Organs healthy.

Head.—Not examined.

Extensive and deep Burns of the Limbs.—Congestion of the Lungs and Brain, and Effusion of Bloody Serum.

Amongst the cases of burns brought to the hospital this winter, I may next notice that of Hannah Austin, æt. 5, who, in consequence of her clothes catching fire, was burnt on the left hand, arms, thighs, and legs. On her admission there was great depression of the system, coldness of the skin, and languor of the circulation. The feet were therefore fomented, and some warm drink given. Flour was applied in the usual way.

On the day but one following her admission, the child became comatose, and sunk. Before death, Mr. Taylor detected the existence of bronchitis.

Sectio cadaveris.—An accumulation of bloody serum in the cavity of the right pleura; the lungs highly congested, and loaded with blood; the mucous membrane of bowels pale; vessels of the brain exceedingly turgid, and a large quantity of bloody serum at its base.

Burns on the Abdomen, Chest, Arms, and Occiput, followed by Ulceration of the Duodenum and vomiting of Blood, &c.

Mary Wright, æt. 3, was admitted into University College Hospital, with several burns of the above-mentioned parts. As she was somewhat collapsed, warm stimulants were given, and the burns dressed with flour. The next day vomiting came on, and for four days the child voided from the stomach considerable quantities of a dark brown fluid, and complained of severe pain in the epigastrium. On the following day she vomited up blood, and, on the next, died convulsed.

Sectio cadaveris.—Traces of peritoneal inflammation on some of the intestines. On raising the stomach, a large clot of blood was observed between it and the mesocolon, circumscribed by adhesion of the adjacent peritoneal surfaces. On breaking the adhesions, and separating the coagulum from the duodenum, the contents of this bowel became effused through an ulcerated aperture, of about the size of a halfpenny, which was situated in the posterior part of the intestine, close to the pyloric orifice of the stomach. A quantity of coagulated blood was found in the latter viscus, and also in the duodenum and ileum; and, besides the ulcerated opening, there were three additional ulcers in the duodenum.

Burn of the Neck, Chest, and Arms, followed by Congestion of the Veins in the Abdomen, Ulceration of the Stomach, Pneumonia, &c.

Matilda Fitzwaylet, æt. 9 years, was admitted January 17, 1839, with an ulcerated surface extending over the front part of the neck, chest, and arms, and occasioned by a burn, which happened three weeks previously to her admission. Symptoms of bronchitis had prevailed more or less ever since the accident. On the fifth and sixth days after her entrance into the hospital, the difficulty of respiration became very great, and she died on the seventh, four weeks after the occurrence of the burn.

Sectio cadaveris.—In the abdomen the veins were all found very much congested. There was an ulcer in the stomach, nearly cicatrized.

In the left side of the chest, old adhesions of the pleura observed. The lungs

were highly inflamed, congested, and almost hepatized. The bronchial mucous membrane was much inflamed, and contained a purulent secretion.

A small quantity of fluid was found under the arachnoid membrane.

Remarks.—That many persons who meet with burns die comatose, or else with great difficulty of respiration—asthmatic symptoms, as they were called—were facts well known to surgeons many years ago. The cause of coma was not, however, attempted to be explained, as it might correctly have been, by reference to the congestion of the vessels of the brain, and the effusion upon or within that organ, as subsequently demonstrated in post-mortem examinations; while the old practitioners, instead of looking at the congested and even inflamed lungs, by which they would have been able to account rightly for the oppression of the breathing, ascribed the latter frequent consequence of a burn to sympathy between the lungs and the injured skin. This was the doctrine which I used to hear inculcated by Abernethy.

The post-mortem examinations made by Dupuytren, of individuals who died of burns, threw quite a new light upon the subject. They proved, that when the sufferer perishes in the flames, or shortly after being removed from them, marks of excessive congestion are usually observable in the intestinal canal, although there has not been sufficient time for inflammation to commence. Not only does the mucous membrane exhibit bright red patches—not only is it gorged with blood, but the bowels contain a quantity of this fluid, which has been extravasated. He describes the brain as being largely injected with blood, and the fluid in the serous cavities of the body as presenting a reddish colour. He represents the mucous secretion of the bronchial tubes as also bloody, and their investing membrane as exhibiting a bright red colour, and streaked with highly injected capillary vessels. It seemed to him as if the blood, suddenly repelled from the skin, made an effort to escape through the pores of every internal surface.

Our second case exemplifies the truth of most of these observations, with the exception that *the mucous membrane of the bowels was pale*, though the lungs and brain were much congested, and a bloody serous fluid was copiously effused within the cranium and the chest.

Dupuytren found that, if the patient died between the third and eighth days after the receipt of the burn, traces of inflammation of the bowels, lungs, and brain, were commonly noticed; but if the patient sank at a later period, or in the suppurative stage, the mucous membrane of the intestines was generally studded with patches of redness and ulceration, and that sometimes the mesenteric glands were enlarged.

As we have not met with such enlargement of the mesenteric glands in our post-mortem examinations of burnt patients, a doubt is left in my mind whether such enlargement, as remarked by Dupuytren, depended upon the burn, or upon the effects of scrofulous disease existing previously to the accident.

The entire perforation of the duodenum by ulceration, exemplified in our first case; the adhesion of the margins of the ulcerated opening to the pancreas; the discharge of great quantities of blood from the rectum before the patient sunk; and the blood found after death within the intestinal canal, and, no doubt, the source of which was the considerable ulcer in the duodenum; appear to me to be circumstances all deserving to be well remembered.

The vomiting, in our second case, first of a brown fluid, and as early as the sixth day, of blood; the death of the patient at the end of the first week; the presence of several ulcers in the duodenum at this early date; its actual perforation in one place by the ulcerative process; and the presence of blood in the stomach, duodenum, and ileum, after death, are so many facts of great interest in relation to the pathology of burns. Dupuytren's observations would not lead us to expect ulceration of the bowels so early. As for the vomiting of blood, and its discharge *per anum*, I am not aware that he has adverted to these occasional consequences of burns at all.

Our last case, besides exemplifying several effects arising from visceral inflammations, presents us with an instance of an ulcer of the mucous membrane of the stomach nearly cicatrized.

These post-mortem investigations seem to me, gentlemen, not only to elucidate the causes of various symptoms, observed to follow burns, but to suggest the question, whether, in the stages of burn, attended with congestion, or actual inflammation of important internal organs, the taking away of blood from the patient would not be the most likely means of saving the patient's life. In France, I know that the use of leeches, in certain stages of burns, is advocated by some surgeons, as much as they are by certain practitioners here, in the commencement of an attack of erysipelas. In the period of reaction, between the third and eighth days, when the pulse is strong, and there is evidence of visceral inflammation having come on, what measure is so likely, I ask again, to save the patient? Let the result of a moderate abstraction of blood be first ascertained; and, if it be favourable, let the evacuation be repeated with circumspection.

REPORT
OF THE
WEST-RIDING OF YORK PAUPER LUNATIC ASYLUM.

It would be well if the Annual Reports, which are now so extensively circulated, could be made the channel of conveying such important and useful information on the nature, symptoms, and treatment of insanity, as is furnished by the journals of so large an institution. From their circumscribed limits, however, that is impossible, and it must, therefore, be presented to the public, at a future period, under some other form.

It is satisfactory to find, that notwithstanding the great increase in the number of patients (the average throughout the year being 346), the mortality has diminished. Thirty-seven have died, some within a short period of admission. Amongst this number was a patient who had been insane seven days before being sent here; he had been bled from the arm three times, to syncope; the quantity abstracted was 96 oz. in less than four days: from this and "severe purgation," the system was so reduced, that the patient, as may be expected, never rallied. Another was received in a sinking state, with the hands and arms enormously swollen, of a blackish colour, approaching a mortification, and a deep indentation in the upper arm, produced by a cart-rope, which had been used for the purpose of binding him down in bed. He had been highly excited, but on his admission all restraint was removed; he became calm, answered every question rationally, and continued in that state up to the period of his death, which took place in twelve hours.

Of the 183, who have been admitted into the Asylum, 45 are the subjects of insanity, the result of intemperance; 38 with propensity to suicide, having made actual attempts on their lives; 16 are epileptic; and 8 idiots from birth.

As the Reports frequently fall into the hands of those who are wholly unacquainted with the institution and its officers, a short sketch of its medical and domestic economy may not be uninteresting.

The patients are all paupers, their respective parishes paying for each 6s. per week. This sum defrays every expense. They are fed, lodged, and clad alike, wearing a dress of grey woollen cloth, which is woven and made up by themselves; they rise at six A.M. in the summer, and seven in the winter, and all who are in a fit state (of whom there are a great number), attend with such servants as can be spared at morning prayers, precisely at eight o'clock. They breakfast on milk-pottage and bread, at half past eight. At nine o'clock the gardener, farmer, laundry-woman, &c. select those patients who, by previous arrangement with the director, have been fixed on for their several occupations, and commence work.

At eleven, the workers have a luncheon of bread, and three-quarters of a pint of table beer. They dine at one. Their dinners are one day, meat, yeast dumplings, and potatoes, and half-a-pint of beer; the next, soup, with potatoes and dumplings, alternately.

At two, work is resumed, and at four a luncheon is distributed, similar to that in the forenoon. At seven they have supper, of milk pottage and bread. At eight, the bed-room doors and window shutters are carefully locked, the clothes folded, and placed on the outside of each door. The resident physician (who is director), the matron, the apothecary, and housekeeper, reside in the institution. They not only visit each patient once a-day, but are constantly amongst them. The visiting physicians attend twice a week each, and more frequently if necessary. The two visiting surgeons once a week, and as often as there are surgical cases requiring their attendance.

The number of patients employed will be seen from the following table;—

Sewing and knitting	61
Household work	78
Agriculture	45
Shoemakers	5
Weavers	6
Baking and brewing	4
Joiners, painters, coopers, and blacksmiths	7
Washing	18
Picking coir	74
Total	298

A quarterly meeting is held by the visiting justices, for the examination of the accounts, and for the general business of the institution. Besides this, their regular meeting, they pay frequent visits for the purpose of inspecting every part of the asylum.

Visitors of every class, and from all parts of the country (who, it should be stated, from their numbers sometimes much interfere with the regularity of the household), are almost daily to be seen in the wards and other parts of the establishment. The friends of the patients are allowed daily (Sundays excepted), to visit their relations, and in no instance are they prohibited, unless injury to the patient is apprehended.

On a comparison between this and other

county asylums, there appear to be but a few placed on the same system in reference to admissions. In these asylums, where all cases of insanity are admitted indiscriminately, the mortality may be expected to be greater, and the cures fewer in number, than where such only are admitted as offer the probability of cure.

In most of the county asylums three classes are received, the opulent, the pauper, and an intermediate class; the committee of management exercising a discretionary power as to the granting or refusing of admissions. In the West-Riding Asylum, on the other hand, the patients are exclusively paupers,—a class of society offering all the disadvantages of poverty, want of education, and intemperate habits; idiots and epileptics from birth; chronic cases of many years' standing; persons in the last stage of acute diseases—all are received alike with those affording a reasonable prospect of successful treatment. Much might be added on the effect which the moral condition of a people has on the nature and increase of insanity, on the pernicious results, physical as well as moral, from the masses congregated in the houses, yards, and factories of our manufacturing towns, and last, though not least, on the use of ardent spirits, and the calamitous effects of the every where to be found "beer houses."

The few and slight cases of dysentery, which now so seldom present themselves, are scarcely worthy of mention; but that the public mind may be fully disabused, and that the real condition of the establishment may be known on this subject, a table is added of deaths from dysentery, taken within the last six years, the accuracy of which may be established by a reference to the journals, in which every case is entered by the visiting physicians, with the progress and treatment:—

	Males.	Females.
1833 ..	1 ..	0
1834 ...	0 ..	1
1835 ..	1 ..	0
1836 ..	0 ..	0
1837 ..	0 ..	0
1838 ..	0 ..	0
Total	3	

Thus in the course of six years, out of 1231 * persons, three only have died from dysentery—a number not exceeding that which in all probability would have occurred in any town in the West-Riding with an equal population.

The inquests, which were formerly held on the death of every patient, were abolished by order of the visiting justices, in 1835, which order was confirmed by the Court of Quarter Sessions, held at Pontefract. Since that period the following regulation has been substituted:—On the death of a patient notice is given to the constable of the district, who inspects the body, and inquires into the cause of death, &c. A book of certificates is kept, in which the name, age, and cause of death is registered, which register is signed by the visiting and resident physicians, the apothecary, and constable. If, however, the death is sudden, or the cause in any degree doubtful, the constable summons an inquest as formerly.

The sum of £25. 17s. has been added to Harrison's Fund from the profits of the bazaar. Its institution has furnished an endless source of interesting occupation for the patients, whilst the knowledge that they were working for themselves and families, has not a little tended to stimulate their industry and invention.

An abundant supply of excellent water has been obtained from the well in the East plantation, as mentioned in the Report of last year. The weekly bathing of the patients has been continued without interruption, and the household was never in a more healthy state.

The great advance which has taken place in the price of provisions has, of course, had its effect on the finances, nor does the balance in favour of the institution appear to justify any alteration of the weekly charge.

C. C. Corsellis, M.D.
Director.

* The servants are here added to the patients. In 1828, when it appears to have been epidemic, the housekeeper died: she was the only servant who was fatally attacked with the disease since the institution was opened, and only two have ever had it.

ROYAL INSITUTION.

February 1, 1839.

Professor Grant on the Infusoria.

Dr. Grant entertained the visitors this evening with a short account of the recent researches into the nature of the *infusoria*. He explained the import of the same by stating that the attention of philosophers was first directed to them as a product of putrescent infusions. The microscopic investigations of Liewenhoeck had thrown great light on the anatomical structure of these animalcules; and successive entomologists, but pre-eminently Ehrenberg, had made us acquainted with the almost universal presence of these creatures in nature. They were shown to be necessary inmates of all fluids; rivers and the profound ocean derived colour from them. The persons of men and the bodies of all animals were menageries for their entertainment. They had been found in the deepest mines yet penetrated, though

totally removed from the influence of the sun's rays. They had been found (said the Doctor) in dried mud, in a state of suspended animation, and constituted a large portion of the clouds of dust which are transported by the winds over the earth's surface. Thus dry and torpid, and strown over the ground, by returning moisture they are restored to a state of active function. They are to be met with in all parts of the world, and their locality is not regulated by any distributory laws. They subsist in a state of hybernation within the arctic circle, and there are five or six hundred species of them existing in the sands of the African desert. The silicated kinds remain unscathed, even in sulphuric and muriatic acids. The imperfection of our present knowledge regarding them, prevents our forming an accurate classification of them; but Dr. Grant considers the lines of their organization, as drawn from East to West, more homogeneous than any that can be drawn from North to South. The *débris* of these animalcules constitutes an immense portion of the stratified rocks. The masses of flint found in the beds of the earth, are but agglomerations of defunct silicious infusoria, and the immense hills of chalk are supposed to be merely the exuviæ of similar animalcules. There can be no doubt, according to the lecturer, that these minute monads have been the architects employed in modifying the surface of the globe, and preparing it as a residence for man.

Dr. Grant divides these animalcules into two large classes—the wheel animalcules, or *rotiferæ*, and the more simple polygastric monads. The wheel infusoria are of complicate structure. They are supplied with œsophageal ganglia, and with organs of respiration, digestion, &c., rivalling in complexity and completeness a much higher grade of the animal kingdom. On this occasion he confined his attention chiefly to the polygastrica. Lamarque and one or two other naturalists thought that these animals were nourished by endosmosis, and that their movements were automatous, and not spontaneous; but the more accurate observations of Liewenhoeck, Spallanzani, Goets, Walp, Deicken, and Ehrenberg, have shewn that they possess not only an alimentary canal varying in direction, but a masticatory apparatus. Ehrenberg's ingenious and elegant devices have constituted the most successful means of developing the structure of the polygastrica. Their immersion in coloured but innocuous infusions has pointed out the existence of a plurality of digestive pouches, whence their designation is derived. Many of these monads are of a most voracious character, and devour whole hecatombs of the inferior species. The Doctor demonstrated the structure of these creatures by a profusion of drawings and diagrams, in which the outward form, internal splanchnology, and mode of propagation, were most satisfactorily illustrated; such as of the *monus crepuscula*, the *valora globator*, &c., of which it would be impossible to give an adequate idea in letterpress. Thousands of species are parasites of the conferbæ, polevaceæ, &c.; whilst others, as has been said, are antovorans. But nothing connected with these animalcules is more astonishing than their propagatory powers. Their mode of generating is of two kinds, oviparous and *fasciparous;* and in many species both modes of propagation are in active operation. In numerous instances these monads spontaneously divide themselves into two, others into four segments, each of which is as perfect a being as the parent. It is known that several of the species propagate by this means at the rate of 124 millions in five hours. But such as propagate in both fashions are calculated to produce, in forty-eight hours, 120 millions of billions, or in other terms, one of these living specks which a strong microscope alone can render visible to the human eye, can, in 48 hours, magnify or multiply itself to a dimension of two cubic feet—a stupendous example of vital energy to which any thing visible in the higher animals is indeed feeble in comparison. These monads agglomerate together into immense communities, which exhibit various forms of contour—globular, oblong, or circular, and the mausolea of many of these defunct nations remain extant at this day in the shape of masses of flint. A new view of the nature of the ponipherous classes of animals had recently been promulgated in a memoir read before the Institute of France, in which it is contended that the surfaces of the sponge are covered with innumerable distinct and independent monads. This theory Dr. Grant thought exceedingly probable.

February 15.

Professor Faraday on Gurney's Oxy-Oil Lamp.

This evening the theatre was crowded with visitors, attracted by the announcement of a demonstration to be made by Mr. Faraday, of the properties of Mr. Gurney's "oxy-oil" lamp. The Directors of the Trinity House had authorized Mr. Faraday to apply a variety of tests to Mr. Gurney's lamp, in order to shew whether or no it could be safely adopted as a substitute for the present mode of illuminat-

ing light-houses. Mr. Faraday presented, in his usual beautifully perspicuous manner, a sketch of the two modes of illuminating these beacons now prevalent—of the reflective, and of the dioptric or refractive plan. He then gave a clear and satisfactory account of the theory of ignition and flames, observing, that the views of Sir Humphry Davy on this subject were substantially correct. In France, the dioptric plan is adopted, under the influence of Fresnel and Arago; but in this country, the authority of Mr. Drummond upholds the use of reflectors. The refractive plan requires a great central light, which, by various lenses, is to be diffused as widely and extensively as possible over the surface of the sea, for the guidance of the mariner. Fresnel has, with this view, made an improvement in the argand lamp, by supplying numerous concentric wicks. By this arrangement the means of combustion are supplied much more extensively to the inflammable vapour generated by the decomposition of the oil, and which, in the ordinary flame, is contained in the hollow pyramid of the flame, and escapes unignited.

It is a great point in this mode of illuminating, that the flame should extend vertically as little as possible, but horizontally as widely as can be contrived, in order that a large surface should be covered with light. Fresnel's lamp answers this purpose to a certain extent, but the force of the illumination afforded is too feeble to penetrate thick mists and fogs. In Mr. Faraday's opinion, Mr. Gurney's lamp supplies every desideratum. It consists of seventeen argand tubes, arranged in a circle, and in each the interior of the flame is supplied from a reservoir of oxygen. The light produced was certainly most intense, as was made evident by the fact, that the brilliant gas lights threw their shadows on the wall. Mr. Gurney has, under Mr. Faraday's superintendence, brought his lamp to such perfection, that it can be managed by the most ignorant person. The light which it ordinarily throws out is equal to that of forty argand lamps, and its force may on occasion be augmented to an equality with fifty argands. From Mr. Faraday's calculations, it appeared that one pint of sperm oil would, in Gurney's lamp, produce as strong an illumination for an hour, as two and a half pints of oil which would be consumed with forty argand-lamps in that time. The expence of the oil and oxygen would be 1s. 9½d.—a sum not exceeding the cost of the ordinary lamp, whilst the dioptric plan could be adopted in our light-houses with an efficacy hitherto unknown. Mr. Faraday demonstrated the various properties of flame, much to the delight of a crowded audience.

February 22.

Mr. Johnson on the difference between Mental and Physical Investigations.

Mr. Johnson gave, by way of exordium, a brief, but distinct and perspicuous, outline of metaphysics. This subject, he said, was divided by the most approved authors into four sections:—1st. The physiology or natural history of the intellectual powers. 2dly. Ethics, or the motives of human conduct. 3dly. Theology, or the principles of divine government. 4thly. Politics, or the principles of human government. His subject for the evening related merely to a portion of the first section. The most profound and acute thinkers had, he said, fully demonstrated that the essence of matter was equally beyond the reach of the human faculties with the essence of mind; and that, consequently, all legitimate philosophy must consist in watching the course of psychical or of physical nature, and associating the phenomena according to the laws of conjunction which regulate their succession. The operations of reason were the same in both processes; and the invaluable system of induction, discovered by Lord Bacon, was as fully applicable to mental inquiry as to material. But the *source* of evidence made use of in the two cases was different. In the philosophy of mind, the principle of consciousness, or in other terms the power of reflection, furnishes us with the data from which our conclusions are to be drawn; but in the physical sciences, the *αυτοψια*, or evidence of the senses, forms the basis of our reasonings. Mr. Johnson exhibited some showy chemical experiments, and an *experimental* demonstration of the forty-seventh proposition in Euclid, as an example of the share which the senses bear in the business of conducting our inquiries into physical truths. After this, the lecturer made several other experiments, to show the various illusions of the senses taken separately, and to prove the insufficiency of these powers unless assisted by the intellectual faculties to supply any correct information as to external nature. As a familiar example, the real nature of the moon and planets could never be ascertained by simple autopsia, and the greater part of mankind have never had any other idea of these bodies than as so many luminous discs.

Mr. Johnson now was led to consider the congenital tendency of certain minds to pursue either the one or the other of these great divisions of knowledge, and the mental habits which they created. No

man, he said, could be a successful investigator in any branch of physics without possessing so much knowledge of our mental nature as would give him a mastery of the *Novum Organon*, or inductive calculus of Bacon. The philosophy of mind included, he said, the germs of all sciences, and developed their mental relations, and every man who would have an enlarged view of all knowledge in relation to himself ought to study metaphysics. Fortunately this was a study open to the poorest; no expensive apparatus was necessary; no laboratory of the Royal Institution; every man carried in his own mind an invaluable museum, a catalogue *raisonné* which he had only to peruse, in order to acquaint himself with its treasures. It was the cultivation of reflection which created the most striking distinctions between man and man; and how immense this distinction was, for example, between Newton and the uncultivated Caffre — between Shakspeare and a village newsmonger. The lecturer now dwelt upon the extraordinary mathematical powers of Newton, who perceived the truths of all the theorems in the three first books of Euclid with a rapidity that had the appearance of intuition, for he made no reference to the demonstrations appended to the figures. A simple contemplation of the figures was enough to convey to him all their mathematical relations. He then dilated upon the inventive powers of Shakspeare, and his wonderful creations. The metaphysical madness of Hamlet contrasted with the physical madness of Ophelia; the destructive jealousy of Othello; the power of love as exemplified in Romeo and Juliet, &c. &c. By these instances the perfect familiarity which Shakspeare had with all the modes of human thoughts and feelings were exemplified.

With regard to that most interesting subject, the state of the mind in infancy, Mr. Johnson felt disposed to agree with Brown in the opinion, that though consciousness was not evolved, yet the child gained information by a process of induction. This interesting branch of philosophy has been most satisfactorily explained by Professor Rennie, whose metaphysical acumen, if continuously directed to one object, would have operated to the production of great results. According to this philosopher, the instinct of animals is *ejusdem generis* with human reason, but unaccompanied by the superior principle of consciousness. Mr. Johnson adduced some examples of false reasoning, and shewed that all sophisms could be traced to the infringement of one or two simple rules of logic. Metaphysical studies imply, above all others, the exercise of self-control; for, in fact, every act of reflection is a victory gained over some propensity or sensation whose obtrusiveness is overcome. The observations of a contemporary are highly interesting and germane to the matter in hand:—

"When an inquirer is engaged in the scientific study of any natural object, his contemplation of this object does not add any new phenomenon to the facts and qualities already belonging to it. These phenomena remain the same, without addition or diminution, whether he studies them or not. Water flows downwards, rushes into a vacuum under the atmospheric pressure, and evolves all its other phenomena, whether man be attending to them or not. His looking on makes no difference as far as the nature of the water is concerned.

When man, however, is occupied in the study of the phenomena of his own natural being, the case is very materially altered. Here his contemplation of these phenomena *does* add a new phenomenon to the list already under his inspection: it adds the new and anomalous phenomenon that he is contemplating these phenomena. To the old phenomena presented to him in his given or ready-made being—for instance, his sensations, passions, rational and other states—which he is regarding, there is added the supervision of these states, and this is itself a new phenomenon belonging to him.

In carrying forth the physical sciences, man very properly takes no note of his contemplation of their objects, because this contemplation adds no new fact to the complement of phenomena connected with these objects. But in constructing a science of himself, man cannot suppress this fact without obliterating one of his own phenomena. Here, then, is a radical distinction between physics and metaphysics.

The act of philosophizing is the act of contemplating our own natural or given phenomena. But the act of contemplating our phenomena *unsystematically* is no other than consciousness; therefore the only distinction between philosophy and consciousness is, that the former is with system, and the latter without it. Thus, in attending to the fact which "philosophy" or metaphysics brings along with her, we find that consciousness and philosophy become identified—that philosophy is a systematic or studied consciousness, and that consciousness is an unsystematic or unstudied philosophy. Consciousness is philosophy nascent; philosophy is consciousness in full bloom and blow.

It is precisely in this identity of philosophy and consciousness that the merely *theoretical* character of philosophy disap-

pears, while at this very point her ever-living character as a *practical* disciplinarian of life bursts forth in the strongest light; for consciousness is no dream—no theory; it is a real and often bitter struggle on the part of each of us against the *fatalistic* forces of our nature, which are at all times seeking to enslave us. The causality of nature, both without us, and especially within us, strikes deep roots, and works with a deep intent. The whole scheme of nature, as evolved in the causal nexus of creation, tend to prevent one and all of us from becoming conscious, or from realizing our own "personality." First come our sensations, and these monopolize the infant man. Next come the passions, a train of overwhelming sway. Now there is less chance than before of our ever becoming personal beings or free agents. The causal or enslaving powers of nature are multiplying upon us. The passions monopolize the man, and exert their power to lull him into oblivion of himself."

"Then comes *reason*, which, considered as a straight and not as a *reflex* act, has done nothing for man which she has not also done for beavers and bees, creatures which, though rational, are yet not "personal" beings. Without some power to act as a supervisor of reason, that faculty being, like our other natural modifications, a state of monopoly of of the man, would like them have tended to keep down his free agency. Such are the chief powers that enter into league to enslave us, and to bind us down under the causal nexus, the moment we are born. By imposing *their* agency upon us, they prevent us from exercising *our own*.

But strong as these powers are, after a time, man proves too strong for them; he puts forth a particular kind of act which thwarts and sets at naught the whole causal domination of nature. Out of the working of this act, is evolved man in his free, personal, and moral being.

This act of antagonism put forth by the moral against the force of the natural man, is an act of freedom—an act of resistance by which we free ourselves from the causal bondage of nature—from all the natural laws and conditions under which we are born. Philosophy, then, is an act of the highest, the most essential, and the most practical freedom. This is the HUMAN WILL—pure and indomitable will—the fountain-head of all real activity."

The pursuit of metaphysical science obviously implies a wholesome exercise of the human will in opposition to the powers of *inclination*. To attain a practical discipline over his thoughts should be the first object of every rational being, for in a mind thus well regulated, alone, can the highest state of human happiness flourish. The six rules promulgated by Dr. Abercrombie afford valid assistance in the work of self-subjugation. They are *seriatim* as follows:—

1. Cultivate a habit of steady and continuous attention.
2. Exercise strict control over the succession of your thoughts.
3. Keep up an animated inquiring state of mind.
4. Maintain a habit of correct association of facts, according to the relation of cause and effect.
5. Select carefully the subjects to which the mind is directed.
6. Carefully abstract the operation of the judgment from the influence of imagination or passion.

Mr. Johnson succeeded in making a very abstruse and dry subject extremely amusing. He is endowed with much humour, his judgment is sound, and he is perfectly exempt from any tincture of the phrenological quackery. As a first essay, his lecture must be considered highly successful.

IDIOS.

EXTRACT OF TARAXACUM

GENERALLY has a sweet taste, and is readily soluble in water; but Mr. Squire, who has paid much attention to this and other extracts, informs me that, when cautiously prepared, and not unnecessarily exposed to the action of air, the extract is bitter, and that, when sweet, the medical efficacy of the remedy is impaired. It may be given in doses of half a drachm, or more, four or six times a day, dissolved in some aromatic water—a form preferable to that of pill. It may safely be prescribed as an alterative in cutaneous affections, and in those derangements of general health which are accompanied by obscure hepatic symptoms, and in which the usual treatment is ineffectual. Taraxacum is thought well of by several foreign writers of eminence, and is by them generally recommended in the form of liquid extract, or, as it is sometimes termed, *Mellago Taraxaci*; the expressed juice of the fresh root is also used in the dose of two fluid ounces every morning, with an equal quantity of milk.

According to John, the juice of taraxacum contains bitter extractive, caoutchouc, traces of resin, sugar, gum, a free acid, and sulphate, muriate, and phosphate of potassa and lime. For the following particulars respecting this root and its extract, I am indebted to Mr. Squire:—

"Fresh taraxacum root, when crushed and submitted to pressure, varies exceedingly, even in the same week, in the produce of extract, without any material difference being discernible in the root itself; and the average results of each month, taken separately, show a marked difference in the strength of the juice at different seasons. In the winter months, when it should be dug up for medicinal use, the fresh root loses, on drying, 75 per cent. of water. This root, washed, crushed, and pressed, will yield half its weight of dark juice, which coagulates, and becomes of a fawn colour. It yields, on evaporation, 25 per cent. of extract; but, if the expressed roots be further digested, more extract is obtained.

At different seasons of the year, one pound of extract is afforded by the following proportions of the expressed juice; namely,

January and February 4 to 5lbs. of juice = 1lb. of extract.
March . . . . . 6 to 7lbs. of juice = 1lb. of extract.
April, May . . . 8 to 9lbs. of juice = 1lb. of extract, and during these months the juice is so aqueous, that it does not coagulate spontaneously, as it does during the preceding Months.
June, July, August . 6 to 7lbs. of juice = 1lb. of extract, and now it again coagulates; the old roots are spongy, and the new ones very slender.
In September and October 4 to 5lbs. of juice = 1lb. of extract.
In November and December 4lbs. of juice = 1lb. of extract.

During November and December the root is in the most vigorous condition, and most abundant in those ingredients upon which its medicinal powers depend. Frost has a singular effect upon the growing roots, causing the bitterness to decrease, and sweetness to take its place; it is also observable that, on the disappearance of the frost, the bitter returns in a stronger degree, and the sweetness disappears.

The *dark* extract of the shops owes its sweetness to a curious change in the juice during evaporation; and if this process be much protracted, acetic acid is formed, which imparts to the extract a sensible acidity. When carefully prepared extract of taraxacum is of a brown colour, has a sensibly bitter taste, and a peculiar aroma, but it is not so sweet.

From the chemical examination which Mr. Squire has made of the expressed juice of the root of taraxacum, it appears to contain gum, albumen and gluten an odorous principle, extractive, and a peculiar crystallisable bitter principle soluble in alcohol and water.—*Brande's Dic. Mat. Med.* 1839.

A BONELESS ARM.

A curious case of this, and one, as far as we know, without a parallel on record, is given in a late No. (July 11, 1838) of our cotemporary, the *Boston Medical and Surgical Journal*. The subject of it was a Mr. Brown, now 36 years of age, who, when in his eighteenth year, fractured his humerus near the middle. Reunion was going on favourably, but was not complete, when the patient had a second fall, and broke the bone again at the seat of the first fracture. The bone could not be made to unite again: on the contrary, to the surprise of the surgeon, the shaft of each part of the divided bone began to diminish in size, and shorten in length. By a gradual action of the absorbents, the whole of the arm bone, between the shoulder and elbow, was at length completely removed, and that too without any open ulcer, so that not a single vestige of it was left. It has now been in this state for many years, and probably will remain so for life, as there never will be a deposition of bony matter again in that place, nor even a cartilaginous or a condensed ligamentous substitute, which will materially change it from the present singular condition.

Mr. Brown presents the spectacle of one short arm and one long one. The right fore arm and hand are of a size to correspond with the sound one on the left side, and, under certain circumstances, are equally as strong. Ordinarily the right arm swings hither and thither, like a thong with a weight at the extremity: for the fore arm and hand, with reference to the division above the elbow, constitute a pendulum, oscillating according to the movements of the body. Although it is impossible to push with the defective arm, he can draw a bundle towards himself with it as strongly and tenaciously as with the other; and in so doing, the muscles are elongated, so that the arm is extended to its original length. When the resistance is removed, the muscles instantly shorten themselves about six inches. To shew the perfect non resistance of the apparatus of muscles, arteries, veins, and nerves, in the soft, boneless space, we saw him twist the palm of the hand, the other evening, twice round, which consequently presented the strange anomaly of having all the apparatus of the arm twisted like the strands of a rope. In that state the pulsations of the brachial artery and all its branches and ramifications could be felt under the finger, though passing in gyrations, like a winding stair-case, twice sound the soft, unresisting fleshy mass.—*American Journal of the Medical Sciences.*

HYDRO-OXYGEN MICROSCOPE.

To the Editor of the Medical Gazette.

Sir,

Mr. Woodward has directed my attention to your very excellent report (p. 725, No. 20,) of his interesting lecture upon Polarized Light, delivered at the Royal Institution, on Friday, January 25th, 1839; but in which, I am sorry to observe, a mistake has been (I am quite sure inadvertently) made. It is this:—"Mr. Woodward introduced to the notice of the meeting a microscope, invented by Goddard, and constructed by Ross." Now the error consists in attributing to me the invention of a microscope to which I have no pretensions whatever; and as it exposes me to a serious charge (if not contradicted) that I am ever most careful to avoid, viz., the depriving of others of the credit justly due to them, and which would be particularly so in this case, as Mr. Ross is himself the inventor of some of the most important improvements that have been made in achromatic microscopes, &c. I feel very anxious that it should be corrected.

It would have been quite correct to have stated that Mr. Woodward introduced an apparatus, invented by Goddard, adapted to the hydro-oxygen microscope, and constructed by Ross. I call it a polariscope; and it is the first that has ever been constructed capable of exhibiting to an audience the films and wedges of selenite and numerous beautiful devices, small crystals, and configurations in unannealed glass, and illustrating all the various phenomena of polarized light; a full description of which will be found in the volume of Transactions of the Society of Arts, now publishing.

Confident in your politeness to favour me with a notice of the above in your next valuable journal,—I am, sir,

Your obedient servant,

John F. Goddard.

Royal Gallery of Practical Science,
Feb. 23d, 1839.

NOTE RESPECTING THE CASE OF MUNDY.

To the Editor of the Medical Gazette.

Sir,

A report of the case of an unfortunate young man, named Mundy, having (after going the round of the daily press) at length reached the columns of your journal, may I beg the indulgence that you will permit me to say a few words, which may probably render less "inexplicable" "the most remarkable case of the kind you have seen recorded."

As long as the notices of the case were confined to the newspapers, where, mixed up with what is new, there is so much that is not true, so long should I have been silent on the subject, and have maintained the "even tenor of my way" undisturbed, and happy in the participation of the sentiment conveyed in the following quotation:—

"Conscia mens recti, famæ mendacia ridet."

The case has provoked, it seems, considerable interest and excitement, as well enough it might, had the report been correct.

It has been made to appear that the mother of the young man and the Board of Guardians have been the chief actors in this scene, and that I have been gulled into signing a certificate which I had the conscience to know to be incorrect.

Now those who know me well, will, I think, pay me the compliment to believe me incapable of being guilty of so glaring an act of professional inconsistency; and those who do not, or who prefer taking for granted all that may appear in the public prints (howsoever improbable), rather than to presume that the case may not possibly have been painted in its true colours, may think as they please. I have little interest in undeceiving them.

I have had the curiosity to read but one report of the case—viz. in the *Times*; and affirm that nothing could be more partial, incorrect, or garbled, than is that report.

The facts are briefly these:—The unhappy young man came under my care on the 1st of January last, with a long history attached to him, which it would be idle and useless in me to narrate; suffice it to say, that from almost daily conversation with him, I soon satisfied myself that he was of unsound mind, by the perversion of some of the intellectual faculties; and, by a recommendation to the Guardians of the Union, originating entirely with myself, and with my most perfect concurrence, he was removed to Hanwell on the 29th of January.

In conclusion, it may perhaps be worth while to mention, that about a fortnight ago it became my duty to recommend the removal, to the same asylum of two other unfortunates of unsound mind. On the 19th of Feb. they were accompanied to Hanwell by Mr. French, the master of the Kensington Workhouse, who, on making inquiries respecting poor Mundy, was informed by the clerk that he had been "visited by the physician, and pronounced to be decidedly insane."—I remain sir,

Your obedient servant,

Fred. C. Wright.

17, Lower Phillimore Place, Kensington,
Feb. 16th, 1839.

MONTHLY LIST

OF

DRUGS ON SALE IN THE ENGLISH MARKET,

With their Prices and several Duties.

(From the Official Returns, February 26, 1839.)

	Price.			Duty.		Duty Paid.	
						In 1839 to last week.	Same time last year.
	£ s. d.		£ s. d.		s. d.		
Aloes, Barbadoes, D.P. c	12 0 0	to	40 0 0	B.P. lb	0 2	26,554	9,382
Hepatic (dry) BD..... c	5 0 0		14 0 0	F. lb	0 8		
Cape, BD. c	2 10 0		——	F. lb	1 4	——	——
Anise, Oil of, German, D.P.... lb	0 9 6		0 9 6	E. I.	1 4	681	190
E. I. ..... lb	0 6 6		——	c	6 0	9	29
Asafœtida, B.D. c	2 10 0		5 0 0	lb	0 1	1,619	464
Balsam, Canada, D.P. ..... lb	0 1 3		0 1 4	c	4 0	96	26
Copaiba, BD. ..... lb	0 4 0		——	lb	1 0	131	111
Peru, BD. ..... lb	0 4 0		——	c	4 0	——	23
Benzoin (best) BD..... c	25 0 0		50 0 0	c	1 0	51	115
Camphor, unrefined, BD..... c	9 5 0		——	lb	1 0	4,867	3,475
Cantharides, D.P. ..... lb	0 5 3		0 5 6	lb	4 0	190	——
Caraway, Oil of, D.P. ..... lb	0 8 0		0 8 6	lb	0 1	——	3,240
Cascarilla or Eleutheria Bark, D.P.C.	3 10 0		——	lb	1 4	946	857
Cassia, Oil of, BD..... lb	0 7 6		——	c	1 3	801	938
Castor Oil, East India, BD ..... lb	0 0 6		0 0 11				
West I. (bottle) D.P. 1½ lb	——		——				
Castoreum, American ..... lb	0 17 0		0 18 0	lb	0 6	396	196
D.P. Hudson's Bay ..... lb	0 18 0		1 0 0				
Russian..... lb	none						
Catechu, BD. Pale c	1 10 0		1 12 0	c	1 0	5,277	825
Dark	3 0 0		——				
Cinchona Bark, Pale (Crown).... lb	0 2 0		0 2 3				
BD. Red ..... lb	0 2 0		0 4 0	lb	0 1	154	9,772
Yellow ..... lb	0 3 6		0 3 8				
Colocynth, Turkey ..... lb	0 2 6		0 4 0	lb	0 2	931	858
D.P. Mogadore ..... lb	0 1 0		——	lb	0 2	——	——
Calumba Root, BD. c	0 12 0		1 15 0	lb	0 6	6,112	3,393
Cubebs, BD. c	3 15 0		——	c	4 0	10,717	8,530
Gamboge, BD. c	5 0 0		15 0 0	c	4 0	15	21
Gentian, D.P. c	1 4 0		——	c	6 2	196	33
Guaiacum, D.P..... lb	0 1 0		0 1 8				
Gum Arabic, Turkey, fine, D.P... c	10 0 0		10 10 0				
Do. seconds, D.P. .. c	7 7 0		7 10 0	c	6 0	1,371	1,143
Barbary, brown, BD. c	2 2 0		——				
Do. white, D.P..... c	4 10 0		——				
E. I. fine yellow, BD. c	2 14 0		3 0 0	c	6 0	1,626	359
Do. dark brown, B.D. c	1 15 0		2 5 0	c	6 0	4,355	1,645
—— Senegal garblings, D.P. c	3 6 0		——	c	6 0	10	142
—— Tragacanth, D.P. c	8 0 0		12 0 0	lb	0 1	——	——
Iceland Moss (Lichen), D.P. .... lb	0 0 2½		0 0 3	lb	1 0	1,500	3,825
Ipecacuanha Root, B.D. ..... lb	0 1 9		0 2 0	lb	0 6	9,010	5,044
Jalap, BD. ..... lb	0 2 9		0 3 0				
Manna, flaky, BD. ..... lb	0 4 6		——	lb	0 3	2,734	1,424
Sicilian, BD. ..... lb	0 1 7		——				
Musk, China, BD. ..... oz	1 0 0		1 8 0	oz	6 0	310	347
Myrrh, East India, BD. c	5 0 0		14 0 0	c	6 0	63	25
Turkey, BD..... c	2 0 0		11 10 0	lb	2 6	——	162
Nux Vomica, BD..... lb	0 8 0		0 9 0	lb	1 0	7,683	5,063
Opium, Turkey, BD. ..... lb	0 15 0		——	lb	4 0	139	20
Peppermint, Oil of, F. BD..... lb	0 17 6		——	lb	0 1	12,689	36,291
Quicksilver, BD. ..... lb	0 3 8		——	lb	1 0	5,654	5,312
Rhubarb, East India, BD..... lb	0 2 6		0 4 0				
Dutch, trimmed, D.P. lb	0 3 6		0 5 0	F. lb	1 0	819	1,584
Russian, BD. ..... lb	0 8 3		——				
Saffron, French, BD. ..... lb	0 18 0		——	lb	1 0	889	919
Spanish ..... lb	0 18 0		0 19 0	lb	0 6	16,998	16,882
Sarsaparilla, Honduras, BD..... lb	0 1 0		0 1 9				
Lisbon, BD. ..... lb	0 2 0		——				
Scammony, Smyrna, D.P..... lb	——		——	lb	2 6	2,128	1,265
Aleppo ..... lb	0 18 0		1 0 0	E.I. lb	0 6	12,553	11,486
Senna, East India, BD. ..... lb	0 0 3		0 0 4				
Alexandria, D.P..... lb	0 1 9		0 1 10	Other sorts	0 6	21,831	15,812
Smyrna, D.P. ..... lb	0 1 0		0 1 3				
Tripoli, D.P. ..... lb	0 1 0		0 1 3				

‡§‡ BD. In Bond.—c. Cwt.—B. P. British Possessions.—F. Foreign.—D. P. Duty paid.

MEDICAL QUACKERY.

"Dr. Cowan last night delivered a lecture on medical quackery to the largest audience which has attended the lectures of the Philosophical Institution this season; the Town Hall appeared nearly full. We are sorry the crowded state of our columns, and the too recent period of the lecture, prevent our noticing it fully. The subject is one on which Dr. Cowan has thrown down the gauntlet; and, in consequence of a pamphlet in the shape of a report to the Medical Association, has already drawn on himself a swarm of antagonists. The arguments and illustrations of the doctor appeared to have much weight with his auditory, but he evidently had a difficulty in compressing his matter into one lecture."—*Reading Mercury*, Feb. 16th.

ENGLISH MEDICAL SOCIETY AT PARIS.

It may be interesting to the profession to know that an English medical society has been established in Paris, since the commencement of last session, and that it now includes between 90 and 100 members. Evening meetings are held weekly, at which papers are read, and discussions take place: these meetings are peculiarly interesting, as men from London, Edinburgh, Dublin, and different parts of America, join in the proceedings, as well as some of the "internes" and "externes" of the Parisian hospitals.

At one of the late meetings of the Society, Sir Robert Chernside, M.D. was elected President, and James Godfrey, Esq. Vice-President for the present year. Dr. John Hughes Bennett (late President of the Royal Medical Society of Edinburgh) continues in office as Honorary Secretary.

The Society has established a reading-room for the English and French periodicals, and the nucleus of a permanent library is already in existence; so that students finishing their studies in the French capital do not lose sight of the progress of science in their own country.

COLLEGE OF SURGEONS.

The Council of the College of Surgeons have declared the diploma granted to Henry Mansell, late of Wapping Wall, "to be wholly null and void, such diploma having been fraudulently obtained."

BOOKS RECEIVED FOR REVIEW.

An Outline of the History of Medicine, from the earliest Historic Period to the present Time; intended to illustrate the Connexion between the Progress of Anatomy and the Improvement of the Healing Art. By Philip Crampton, F.R.S. Surgeon General to the Forces in Ireland, and Surgeon in Ordinary to the Queen.

The Naturalist; illustrative of the Animal, Vegetable, and Mineral Kingdoms; with beautiful Engravings on India paper. Edited by Neville Wood, Esq. No. 29.

A General Outline of the Animal Kingdom. By Thomas Rymer Jones, F.Z S. Professor of Comparative Anatomy in King's College, London. Part 4.

The Cyclopædia of Anatomy and Physiology. Edited by Robert B. Todd, M.D. F.R.S. Fellow of the Royal College of Physicians, &c. &c. Part 16.

Thoughts and Observations upon Pauperism, Poor-Laws, Emigration, Medical Relief, and the Prevention of Crime. By William Fergusson, M.D., F.R.S.E. Inspector-General of Army Hospitals.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, February 28.

Alfred Harrington Goodhart, Hackney.—Augustus Frederick Gooday, Tudbury.—John Glover Gregg, Cork.—Chas. Webb, Basingstoke, Hants.

In our last List, for "Dalvey," read "Dulvey."

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Feb.* 26, 1839.

Abscess	1	Gout	1
Age and Debility	31	Hæmorrhage	2
Apoplexy	6	Heart, diseased	4
Asthma	7	Hooping Cough	5
Cancer	1	Inflammation	16
Childbirth	2	Brain	3
Consumption	48	Lungs and Pleura	1
Convulsions	24	Insanity	1
Croup	1	Measles	1
Dentition	7	Paralysis	3
Dropsy	5	Small-pox	23
Dropsy in the Brain	8	Stricture	1
Erysipelas	1	Unknown Causes	70
Fever	13		
Fever, Scarlet	10	Casualties	6
Fever, Typhus	6		

Increase of Burials, as compared with the preceding week . . . 58

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

February.	Thermometer.		Barometer.	
Thursday . 21	from 32	to 39	30·09	to 30·12
Friday . . 22	31	49	29·79	29·56
Saturday . 23	46	48	29·50	29 67
Sunday . . 24	30	47	29·70	29·60
Monday . . 25	32	49	29·58	29 82
Tuesday . . 26	28	46	29·92	29·93
Wednesday 27	33	47	29 97	29 78

Winds, S.W. and W.

Generally clear, except the 21st and following day; snow and rain on the 22d, and rain on the 23d, 25th, and 27th.

Rain fallen, ·7125 of an inch.

Charles Henry Adams.

Wilson & Son, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, MARCH 9, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

Pathology of Urinary Diseases in general.

What, then, are the constitutional consequences? Draughts are made upon the system, to compensate the waste and supply the loss. Hence a new symptom presents in excessive thirst The cutaneous exhalation is suppressed, because nature refuses the necessary quantity of watery fluid; and even the saliva and pulmonary exhalation are to a certain extent suspended. Hence we can account for the viscid saliva and the dry state of the breath and fauces, of which such patients so frequently complain. The water necessary to the normal constitution of the saliva is denied or cannot be supplied—hence the glutinous, viscid, and concrescible condition of the saliva; for we frequently observe the angles of the mouth and the lips of such patients besmeared with a concrete glutinous matter. The expired air, too, deprived of the watery vapour with which it is surcharged in health, deposits none of its water in its passage through the fauces, but is expired comparatively dry, as in cases of fever.

We have already stated that the cutaneous perspiration is partially suspended or suppressed; hence the harsh and dry state of the skin—a condition which disposes and ultimately terminates in cutaneous diseases, frequently of an obstinate character, and which are so constantly associated with urinary diseases.

The state of the bowels, too, may be readily explained: thus, in this form, what is strictly termed "*constipation*," does not ordinarily prevail. By constipation is, properly speaking, to be understood, not only a slow or suspended action of the muscular tissue of the intestines, but a dry and hardened state of the fæces. A slow or tardy expulsion of the fæces will naturally be attended with a hardened state, to a proportional extent, of the evacuated matter; because, during the unusual delay in the canal, the more fluid portions are absorbed, and consequently the consistence is materially influenced. Hence the term "costive motion or stool." But in the present case, the muscular coat acts with nearly, if not wholly, its usual vigour and activity. Therefore the fæces are voided with almost the healthy frequency; but in consequence of the suppressed or diminished action of the mucous and exhalent vessels distributed upon the lining membrane of the intestines, the fæculent matter becomes hardened, and what are termed costive evacuations result*, but this will not materially affect the regular expulsion of the fæces.

The effects of stimulant diuretics are ultimately the same, although perhaps the *modus operandi* is somewhat different. By direct stimulation, the kidneys are excited to a more vigorous action, and they deprive the blood of its water. The natural means of restoring the normal proportion is the abundant ingestion of water or

* A costive evacuation must necessarily be attended, to a certain extent, with constipation, or a slow action of the intestinal muscular tissue. Distension or stretching of the muscular fibre is one of the greatest incentives to muscular contraction, and the retention of the fluids usually thrown out by the exhalent vessels will naturally prove a cause of tardiness of action.

watery fluids; and hence nature excites the sensation of thirst, which imperatively requires indulgence in watery fluids. This sensation at last becomes urgent and insatiable, and, with a view to relief, admixtures are resorted to, not only not always innocent, but frequently injurious. I have a case at this moment under my care of this description. It is that of a woman, who, without any other obvious symptom, except slight dyspepsia and flatulence, complains of inordinate thirst. She indulges to an incredible extent in effervescing draughts, swallowing as many as fifteen or sixteen tumblers, holding ten or twelve ounces (measure) of fluid daily, and sometimes considerably more. Allowing each draught to contain two scruples or a drachm of carbonate of soda, with the requisite quantity of tartaric acid, the effect must be an excessive discharge of urine. Here you see a specimen of this urine: you see it is watery-looking, little odour or smell, and the taste insipid; its specific gravity 1008. It contains but a very small relative proportion of urea. Five hundred grains evaporated yielded scarcely three grains of urea, or about one-sixth of the natural proportion. But you see that it contains carbonic acid; as you observe, it effervesces with hydrochloric acid; and, treated with potash or caustic lime, ammonia is disengaged; as you see, the blue colour is restored to reddened litmus paper, moistened and placed within the tube. You also see, from this portion, that it is by no means deficient, but rather abounds in mucus, which you see has subsided to the bottom from this portion left at rest for some hours.

But, independently of ammonia, the urine itself is alkaline, and in a degree sufficient to redden turmeric; and hence we can account for the increase of mucus, for the bladder and urinary passages being irritated, the mucous coat throws out an increased quantity of mucus to defend it from the irritation which an alkaline condition of the urine generally produces. By the action of the fixed alkali which mucus contains, and, in fact, by the mutual reaction of the principles, the urea has been in all probability converted into carbonate of ammonia. It has been shewn, as already observed, by Dr. Prout, that urea is composed of the elements of carbonate of ammonia and water; and hence the ease with which it is changed into these principles by the action of many substances, and especially the fixed alkalies and alkaline earths, which seize upon the elements of the carbonic acid, and generate or liberate ammonia. Admitting these facts—the urea absolutely found, the equivalent in ammonia and carbonic acid, and the unusual dilution of the urine with water, the average quantity being about ten or twelve pints—we can only look upon the deficiency as relative. Indeed, I hardly know whether a real suppression of urea would be compatible with any thing like even a tolerable state of health. Such are the views which I take of the nature of hyperuresis, and such the reasons why I am not inclined to adopt the specific divisions which some have made. The varieties with which we occasionally meet, I am inclined, at least for the present, to regard as mere modifications of the same affection, and consequently requiring no special subdivision.

Diagnosis.—We have already stated quite enough to determine the diagnostic characters of this disease. The only disease with which it is likely to be confounded, if there be an unusual secretion of urine, and that this be observed, is diabetes. Indeed, as already stated, it has been often confounded with diabetes, and hence, probably, the reported cures of the latter. Very frequently, however, it is connected with dyspeptic symptoms; and when complicated with dyspepsia, it will be well always, in directing the treatment, to recollect the state of the urinary functions. From true diabetes it may be readily distinguished by the low specific gravity of the urine, and the total absence of sugar, or any excess of its alternating principle, urea. From diuresis ureosa, the specific gravity, and the absence of any superabundance of urea, naturally present themselves as diagnostic characters.

But in certain varieties of the phosphatic diathesis, diuresis with a very similar condition of urine often prevails. In such cases the urine is of low specific gravity—1002 to 1005—and very abundant; but the specific gravity varies, being often very high, 1020, and again falling to the lower average. The urea, too, is generally more copious, and a chemical examination, as we shall shew hereafter, will always enable us to distinguish between the two diseases.

Treatment.—On commencing the treatment of any disease, a minute inquiry into the history is essential to conduct it on correct principles. The first consideration will naturally be, whether the diuresis be merely symptomatic and occasional, or more permanent and independent. If it be symptomatic, of course we must ascertain the primary disease, and adapt the treatment to this. To enter upon this, would necessarily include the treatment of a number of diseases wholly foreign to my present purpose. It will only, therefore be necessary to apply ourselves to those peculiar forms which are purely the result of a vitiated state of the urinary system.

We have already noticed many preternatural excitants—some mechanical, some stimulating, and some chemical, in their *modus operandi*, and which contribute much to an excessive discharge of urine. If, upon inquiry, we should discover any of these in operation, we must, so far as is consistent, interdict their use. Thus the intemperate must be limited in their excesses; the immoderate use of watery, or of stimulating liquids controlled and restricted, and brought gradually, not suddenly, to a more consistent and healthy regimen. Thus the toper, who indulges in ten or twelve glasses of spirits and water, and the consumer of malt liquor in such immoderate quantities, must have their indulgences gradually curtailed, till brought down to something like moderation.

While urging the absolute necessity of such submissions, we must not be inattentive to the state and activity of the general functions. Any serious deviations in these from the natural state should be immediately attended to, and if possible, rectified. One of the first objects of our attention should be the state of the bowels, and, if constipated, the due and regular evacuation of the fæces elicited. And here, also, we must exercise some discretion in the choice of means; for all purgatives are not equally applicable. For instance, the saline purgatives, owing to the necessity of plentiful dilution, and their tendency often to pass off through the kidneys, render them the most ineligible. The best, perhaps, if the bowels be very torpid, are the resinous; such are gamboge, colocynth, &c. But if merely sluggish or tardy in their operation, castor oil seems the best adapted, from its mildness and gentleness of operation. Purgatives are not the means by which the excessive action of the kidneys, in such affections, is best corrected. Those which act powerfully upon the bowels act also upon the kidneys, and often excite instead of reducing the urine. When connected with hysteria and amenorrhœa, aloetic purgatives, so as to affect the rectum, are the most appropriate, for reasons sufficiently obvious.

A due action of the skin is another very important means of controlling or limiting the excessive action of the kidneys. Stimulating diaphoretics, however, are not the best calculated to fulfil all the indications. The relaxing class, or those which nauseate, are the best adapted for our purpose; for, independently of the powerful action which they exert upon the skin, the nausea which they excite in the stomach reduces that morbid appetite for those articles which we formerly stated were so often among the exciting causes of diuresis. Among the class of remedies under consideration, tartar emetic and ipecacuanha stand preeminent. James's powder is also a very efficient preparation; and the substitute for it, in the Pharmacopœia, under the title "Pulvis Antimonii Compositus," occasionally proves useful. However, this is both uncertain and inert. Antimony observes a law almost the inverse of that which regulates the activity of the salts of the other metals. We generally find that the higher the oxidation, the more active or acrid, whether alone or in saline combination; but iron and antimony observe a different law; and the *protoxide* of the former, and the *sesquioxide* (the lowest degree) of the latter, are found to afford the most active compounds; and hence the activity and certainty of tartar emetic compared with the preparations of *antimonious* and *antimonic* acids.

The powerfully emetic action of the potassio-tartrate, and the inertness of pulv. antimon. comp., render the first unmanageable, and the latter almost useless, or at least not to be depended upon. I have, however, adopted a mode of administering these remedies, which, to a certain extent, obviates these inconveniences—that is, by combining a small quantity—a grain—with a large proportion—from one to two drachms—of the antimonial powder, and adjusting the dose of this compound according to the circumstances.

Ipecacuanha in small doses is both antispasmodic and diaphoretic; but, for the purpose of acting on the skin, its activity and value are much enhanced by combination with opium; hence the pulvis ipecacuanhæ compositus of the Pharmacopœia is a very valuable diaphoretic and sudorific; and a combination of the two just mentioned will be found very efficacious. The best formula for their administration is that of pills, and I therefore generally direct the necessary quantities of each, after sufficient intermixture, to be formed into a pill mass with extract of hyoscyamus, and administered in divided and sufficient doses, at certain intervals during the day.

With a view to astringe the kidneys, perhaps nothing is more efficacious than opium. Opium has been largely administered in excessive discharges of urine, and it has been found almost invariably to reduce the watery portion, even though it should exert little or no effect upon the solid matters existing in this fluid. Not only opium, but the salts of its active narcotic principle, *morphia*, exert a similar agency, and may often be substituted with advantage for it. I find a combination of the antimonial powder, as above, with the compound powder of ipecacuanha, a very

good preparation. The combination of the antimonial, too, with opium, will sometimes be necessary; especially when idiosyncrasy prohibits the administration of ipecacuanha, with instances of which we occasionally meet. I have also found the *sulphate* of morphia a valuable substitute for the opium in the preparation of the Dover's powder, adjusting the quantity to the dose which we wish to exhibit. To assist these, we should have recourse occasionally to the use of the warm bath, sufficient clothing, especially of flannel, and regular friction to keep up the healthy excitement of the skin. If to these last we add a proper regulation of diet, air, and exercise, we shall have included every thing that comes under the head of regimen, which is a most important and essential object in the treatment of all diseases.

In regulating the diet, we should be guided to a considerable extent by the former habits of the patients. Even bad habits are not abruptly or too suddenly broken through with impunity. The patient should be brought to a gradual correction of his errors and abuses. The diet should be light and nutritive, consisting of a moderate quantity of animal food and a due proportion of farinaceous matters. As the digestive functions are frequently much engaged, the diet should be regulated accordingly; therefore all flatulent and acescent articles should be as far as possible interdicted. Hence raw, unripe, pulpy fruits, and green vegetables—tuberose roots, as they are called—are injurious, by running into fermentation, and weakening the digestive powers. Stale bread* is probably the farinaceous article best suited. The drink, too, should be limited; and if there be excessive thirst, the morbid appetite for fluids is best corrected by antimonials, especially tartar emetic in nauseating doses.

All the phenomena tend to shew a deranged state of the digestive functions—a state to be corrected by tonics and bitters. Perhaps the best adapted to this object are gentian, quassia, and calumba. The compound infusion of gentian, slightly acidulated with hydrochloric or nitric acid, should be administered in moderate doses at intervals during the day. Sometimes *quina*, the disulphate acidulated with diluted sulphuric acid, will answer when other tonics cannot be given.

Of the mineral tonics and astringents, iron and zinc seem to be the most efficacious. Zinc, however, is not often selected, although I have met with one or two instances in which sulphate of zinc seemed to exert a very effectual control upon this form of diuresis. But the preparations of iron seem of all the minerals the best suited to this disease. Those most in use are—the carbonate (sesquioxide), phosphate, sulphate, and sesquichloride. We have already stated that the oxides, at the minimum, of iron and antimony, are the most efficacious. Hence the carbonate, or sesquioxide, as it is more correctly named, proves comparatively so inert. The proto- so readily run into persalts, owing to the great affinity between oxygen and iron, that unless administered immediately it has been precipitated as a protocarbonate, it passes to the higher state of oxidation owing to its attracting oxygen from the atmosphere. The proto-sulphate is more easily preserved, but is not so well adapted for exhibition. The protosulphate may, however, be given, if the formula for its administration be properly attended to. First, the water in which it is dissolved should be boiled, to expel all atmospheric air, the oxygen of which converts the protosulphate into the persulphate, or sulphate of the sesquioxide. It is also useful to add a very small proportion of diluted sulphuric acid, especially when we wish to exhibit sulphate of magnesia in the same formula; and which forms a very useful and valuable aperient chalybeate. The phosphate of iron seems a more permanent salt, and certainly seems a very useful and efficacious tonic and astringent in urinary affections. But of all the preparations of iron, perhaps there are none superior, and perhaps but few equal, to the sesquichloride of iron, for the preparation of a tincture of which there is a formula in the new London Pharmacopœia. This may be given in doses of from ten to thirty or forty minims, at the proper intervals, two or three times a day. The tincture may be administered in infusions of calumba or quassia, as they contain no astringent matter, and consequently do not disturb the solution of the ferruginous salts. The plan I generally adopt is, to combine the tincture of sesquichloride of iron with hydrochlorate of morphia dissolved in water; or if we use a bitter infusion, as of quassia or calumba, the addition of a small proportion of hydrochloric acid is useful, and proba-

* A gentleman once urged upon me the superiority of fresh and spongy over stale bread, for the following reasons, which he had from his medical attendant:—"If you place a dry sponge in water, it swells up, and is distended; but if already well moistened, its bulk is no ways increased. So it is with old and new bread. The old bread may be compared to a dry sponge, which, by maceration in the stomach, moistens, swells, and, by its increased bulk, distends the stomach; whereas the new, already saturated, can take up no more moisture, and therefore suffers no increase of bulk." Unfortunately, however, for these views, the facts are wrong, and the theory unfounded. Fresh or new bread proves distressing, from the fermentation which it excites, and the distension of the stomach by the extricated gases.

bly in all cases would prove serviceable by preserving the original constitution, and retaining the salines in solution.

Bismuth and some of the soluble salts of lead have I believe been tried; at least I have myself exhibited them. The trisnitate of bismuth is highly spoken of by Dr. Thomson, as a remedy in dyspepsia*. He gives it combined with extract of hop. It appears, however, to be best suited to relieve the indigestion so frequently associated with this complaint, and which by its reaction in the system tends to keep up the morbid action going on in the urinary system.

I have also given the salts of lead, the astringent action of which in the system is well known. Hence it was natural to infer that it would prove useful as an astringent in diuresis. But I think it better suited to some of the forms which we have yet to consider, than to the present. The acetate and the nitrate—and probably the latter is the preferable—are the preparations best adapted to internal use. The poisonous effects of lead are sufficiently known to all practitioners, although perhaps the views generally taken of this subject are somewhat doubtful. It is believed that the acetate is itself poisonous, even in small doses; but this Dr. Thomson disputes. He asserts that it is the carbonate which is poisonous*, and that the acetate is comparatively innocent, and may be given, if properly guarded so as to prevent decomposition, in much larger doses than usually prescribed, and with great advantage. He asserts that the acetate is converted into a carbonate of lead in the stomach; and certainly a current of carbonic acid gas passed through a solution of acetate of lead, precipitates one half of the oxide as a carbonate, while the other remains in solution as binacetate of lead. This may be prevented by the addition of acetic, acid, which will either prevent the formation of the carbonate, or decompose it immediately it is formed, and so preserve the original composition. The nitrate is not liable to these objections; but as I consider the salts of lead better suited to another form, perhaps it will be better to reserve the observations upon the administration of lead for that occasion.

The last remedies to be mentioned are colchicum and uva ursi. The College have directed extracts from these two substances, and this seems the best formula for their administration in the case under consideration. There are two extracts of colchicum, the extractum colchici cormi, and the extractum colchici aceticum. The latter is the one I generally use in the circumstances under consideration. I find it answer best formed into pills with the powder compounded of ipecacuanha, sulphate of morphia, and sulphate of potass. I generally adopt the following formula:—

℞ Ext. Colchici Acetici, ℈j.; Pulv. Ipec. Comp (e Sulph. Morph.) ℈ss.; Ext. Hyoscyami, gr. x. M. ft. pilulæ no. xij.; quarum capiat æger j. bis, ter, quaterve in die*.

The extract of uva ursi may be added if indicated, or the decoction exhibited; but uva ursi seems more adapted to irritable states of the bladder, rather than to the functional diseases of the kidneys, attended with diuresis.

The local means consist in the application of counter-irritants to the loins and region of the kidneys. But blisters are not suited in urinary affections, owing to the specific action of cantharides on the kidneys, which they stimulate†. The best counter-irritants consist in the application of sinapisms; and in very obstinate cases, issues and setons inserted in the lumbar regions are very efficacious, for though slow and gradual, their action is constant and uninterrupted.

The signs of improvement are to be more particularly looked for in the improved condition of the urine. Therefore an augmented or increasing specific gravity—a diminution of the water, and especially of the average quantity of the urine—sensible evidences of a relative increase of the urea, and more especially of the lithic acid—are the most certain signs of the disease giving way. Indeed, the reappearance of lithic acid is always attended with a deepening of the colour of the urine; and as colchicum is said to promote the formation of this acid, hence probably its utility in this disease, in which all the organic principles seem masked or altered by the unnatural quantity of water, or by the reaction of the other urinary principles.

The diseases in which this affection is apt to terminate are dropsy of some one or other of the cavities, or of the cellular

* Mat. Med. by Anthony Todd Thomson.

† If these views be well founded, it is evident that the alkaline carbonates, now recommended in most works upon Toxicology as the most effectual antidotes against the poisonous salts of lead, only tend to render them more active. The best antidotes are phosphate and sulphate of soda. Phosphate of lead is a wholly insoluble salt.

* The vinum or acetum colchici might, where indicated, be added to the tinctura ferri sesquichloride mentioned above; and it is always advisable not to inundate the patient with a number of formulæ.

† The stimulus, however, of cantharides is peculiar; for, instead of diuresis, they excite *strangury*. Hence many cases of this description have been sometimes treated with tincture of cantharides—a practice which though perhaps occasionally admissible, yet requires great caution and discrimination.

tissue; in children, marasmus, and various other affections of the class cachexiæ. We also frequently observe associated a tendency to cutaneous affections, generated in all probability by the torpor or inactivity of skin which generally accompanies an immoderate flow of urine. These often terminate in severe ulcerations, sloughing, &c.; and I think I have seen a peculiar tendency to porrigo, and of an obstinate character, associated with a flow of watery urine in children. A flow of urine, too, of this sort, as already stated, is often a forerunner of the phosphatic or earthy deposits, in children leading to the formation of calculi of carbonate of lime. Here are two specimens of urine—this is that of a medical gentleman who has just consulted me. He is frequently attacked with diuresis of an intermitting character; for it will appear for a time—several days—then disappear, and then return again at intervals quite uncertain, and this has been the case for several times. You observe the urine is quite watery in appearance; odour and taste hardly sensible; sp. gr. 1011; it evolves ammonia, because if I bring the hydrochloric acid near it, vapours of hydrochlorate of ammonia, as you observe, rise in clouds.

This specimen, as you see, is somewhat different; it is cloudy or turbid, and was so, I understand, when passed; a statement which I can credit, because the cloudiness does not disappear even on boiling it, and therefore cannot depend upon the lithate of ammonia, which you know would dissolve at a much less elevation of temperature, and leave the fluid perfectly transparent. This specimen resembles the other in many of its characters; it is rather deeper in colour; but its sp. gr., as you see, is only 1002 by the ouro-barometer, but accurately determined, is 1002·35. It also evolves ammonia, as you observe, by the cloudy vapours of hydrochlorate of ammonia, generated on approximating hydrochloric acid. I cannot enter more at length upon these cases, as they have but just come under my notice. The first I conceive to depend upon an irritable state of the prostate probably affecting the bladder; the latter, I have ascertained, is connected with a sprain in the loins, of several years' standing, but which the patient had entirely forgotten till reminded of the circumstance by my inquiries. The treatment will be conducted much upon the principle which I have already detailed to you, and which it would be wholly unnecessary here to repeat. We shall therefore now proceed to consider the next form of urinary flux, or that in which coagulable matter analogous *to chyle* and its various modifications is abundantly discharged with the urine.

CLINICAL LECTURES ON MEDICINE,

Delivered at the Meath Hospital, Dublin,
Session 1837-8,

By Professor Graves.

Lecture XI.

Dr. Struntz's Observations on the Non-mercurial Treatment of Syphilis—Result of Dr. Oppenheim's Inquiries — Opinions of Dr. Staberoh—Further Remarks on the Venereal Disease.

At our last meeting I gave you the results obtained at Hamburg, by Dr. Fricke, respecting the non-mercurial treament of syphilis. To-day I shall commence with extracts from a paper published in the *Berlin Medical Gazette*, by Dr. Struntz, and although I cannot agree with the learned doctor in all the conclusions he has drawn, yet his facts are too valuable to be passed over in silence.

The following is the sum of Dr. Struntz's observations on the non-mercurial treatment of syphilis in the venereal wards of the Charité Hospital, at Berlin. These observations extend over a space of twelve months, and were made under the direction of Professor Kluge.

Of 741 patients (some of them greatly neglected), Dr. Struntz has not met with a single case in which the non-mercurial plan has not succeeded, when combined with a rational consideration of the peculiarities of the local disease. On the other hand he has seen many out-patients treated with mercury for weeks and months together without any advance being made towards the healing of primary sores, or, in many instances, without any effect in arresting their destructive progress. The primary symptoms more particularly alluded to, are chancres and acuminated or broad condylomata.

In the Charité Hospital, at Berlin, not only primary sores, but all forms of the disease, from the slightest to the most intense, have been treated for the last half year without mercury. It might be objected to the non-mercurial plan of treatment, that it does not afford any protection against a recurrence of the disease —that it does not ward off secondary symptoms. This may be very true, but neither does mercury. Among the many hundred patients who came under Dr. Struntz's notice during the course of a year (and to this point he paid the most particular attention), there was not a single case of secondary syphilis in which he did not discover, either from personal examination, or from an inspection of the recipes brought by the patients, that mercury had been used for the primary affection. If

mercury, then, will not secure the patient from secondary symptoms, it is not unreasonable to have recourse to another plan, which, at most, cannot be attended with more unfavourable results, and which is free from the disadvantages of generating a double poison in the system. It is true that by proper attention to diet, rest, cleanliness, the avoidance of exposure to cold, and other precautions, most of the bad effects of mercury may be obviated; but how are we to secure the fulfilment of these conditions among the poorer class of patients outside the doors of an hospital?

Again, is the diagnosis of syphilitic ulcers so easy, that a man can pronounce at once that this or that ulcer is a true venereal chancre? How much observation and experience are required to enable a man to decide this apparently simple question! Is it not well known to every practical and experienced surgeon that sores are frequently seen on the genitals, not produced by syphilitic infection, and yet presenting almost all the characters of syphilis?

The results obtained at the Charité were most satisfactory. All cases of primary sores, including condylomata (two thirds of which are looked upon as primary symptoms), were treated successfully without mercury. The number of patients discharged cured was 733, and of these Dr. Struntz had not met with a single case of secondary symptoms up to the period of publication (Sep. 30th). Many of these patients were prostitutes, and constantly under the surveillance of the hospital surgeons. Dr. Struntz does not wish to intimate that he places implicit reliance on the non-mercurial treatment pursued at the Charité, or that the method is infalliable; all he wishes to say is, that of all the primary cases treated in this way at the hospital, not a single one was followed by confirmed lues, or even by those milder forms of the disease which have been described by Bonorden and others as secondary syphilitic exanthemata. Both modes of treatment were followed at the Charité, but it was found that, under a similar management of the local affections, those patients who were treated with mercury could not be discharged for two or three, or even four, weeks later than those who had not taken any mercurial preparation. It is true that condylomata are apt to return, but this occurrence takes place as often under the mercurial as under the non-mercurial treatment, particularly when the local treatment has been commenced before the condylomata have completed their development, or where they have not been completely eradicated at first. In cases of syphilitic exanthemata, psoriasis, and impetigo, where corrosive sublimate and red precipitate had failed, Zittmann's decoction was used with good effects; latterly, however, Dr. Struntz has been in the habit of giving the Decoct. Sarsaparillæ, Caricis Arenariæ, Specierum Lignorum, aa. ʒij; Fol. Sennæ ʒj. Of this decoction a pint was administered daily; and, in conjunction with warm baths, and in more obstinate cases with nitric acid, he succeeded in accomplishing the desired effect. "It may be observed," says Dr. Struntz, "*en passant*, that in many cases, after and during a course of mercury, particularly, red precipitate and corrosive sublimate, I have seen psoriasis guttata and impetigo sparsa arise; the former disappearing after the mercury had been omitted. Latterly we had also some cases of ulcerated throat and commencing ozæna with mercurial complication. It may appear somewhat bold in cases of this kind to exchange an old and esteemed remedy like mercury for sulphate of magnesia; but in our patients, the racking pains of the head and nose were relieved, the discharge ceased, and the ulcers healed in a remarkably short space of time. About the commencement of July three young men were admitted into the venereal wards. One of these had been under a course of calomel and corrosive sublimate previous to his admission; the others had also taken a considerable quantity of mercury, and were labouring under ozæna and periostitic pains. By the use of sulphur baths, the hospital decoction, and a nutritious diet, all were greatly improved in the space of a fortnight, and their improvement went on so rapidly that one was dismissed cured at the end of the month, and the ulcerated sore throat was beginning to cicatrize. A case of syphilitic iritis is deserving of notice.

A servant girl had been admitted, in the August of the preceding year, for condylomata, which extended from the orifice of the vagina to the anus. She had been treated with calomel, and afterwards with corrosive sublimate, and the condylomata were either cauterized or removed by excision, but still returned as fast as they were destroyed. She then took Zittmann's decoction without benefit, and after some time reverted to the use of calomel. Scarcely had her mouth become fully affected (she had taken 7 doses of 10 grains each) when she was attacked with an impetiginous eruption of the face, and soon after with iritis, bearing all the characters of a syphilitic inflammation. Bloodletting, leeching, and antiphlogistic measures, were employed, but in spite of every precaution an abscess formed on the iris. The calomel, having proved useless was discontinued, and the patient ordered the Decoct. Lignorum Specierum of the *Pharmacopœia Militaris*, combined with a mild antiphlogistic treatment. Under this treatment, the pus, which

lay at the bottom of the anterior chamber, was reabsorbed in the space of a fortnight, the pupil resumed its natural form; in a word, all the traces of iritis had so completely disappeared, that many professional men could not distinguish the sound from the previously diseased eye unless it was pointed out to them. She was completely cured of her obstinate primary symptoms by the non-mercurial plan. I cannot decide what share mercury may have in the production of these secondary affections, but I cannot believe that it is wholly without influence on their origin."

Such, gentlemen, are the facts recorded and the observations made by Dr. Struntz, to which I shall now add the contents of a letter which I have lately received from my friend, Dr. Oppenheim, of Hamburg,—a gentleman, whose extensive practical experience, derived from upwards of a thousand cases, entitle his opinions to the most attentive consideration:—

"Hamburg, Nov. 26, 1838.

My dear Graves,—On receiving your letter I endeavoured to fulfil your wish, and the result of my endeavours is the following sketch. I fear it will not give you full satisfaction, being rather theoretical than practical, but it was impossible for me to examine all the Hospital Reports and cases in so short a space of time. I have, therefore, commissioned a very industrious young physician, to communicate the points held in view in Fricke's treatment, and the following manuscript is the result*:—

In Hamburg the number of non-mercurialists increases daily; among the young physicians, who have been practitioners for the last eight years, there are only two or three mercurialists. In fact, I very seldom meet with truly malignant and inveterate cases, and these are always cases in which a great deal of mercury has been taken previous to admission into hospital. For such cases, as exanthemata or lepra syphilitica, broad condylomata, nodes, tophes, syphilitic gout and rheumatism, I know but two remedies, which I employ alternately according to the constitution, age, season of the year, circumstances of, the patient, &c. viz. Zittmann's decoction, repeated if necessary at intervals, and the external and internal use of hydriodrate of potass, (ʒss.—ʒj. in the 24 hours).

Disease of the bones, or of the periosteum, I have not met with in any case, in which the patient had not taken any mercury.

With respect to chancres, when in the first stage (the chancre-vesicle), I touch them with caustic; afterwards the treatment is regulated by the degree of inflammation (painfulness) present. Rest (the recumbent position) and diet are most important means; the large mound-like indurations are best treated with poultices. One of the best applications for promoting the healing of chancres is *copper*, in the form of Kochlin's solution, diluted according to the sensibility of the patient.

Recent buboes I endeavour to disperse by abstraction of blood and compression; when these means fail, and they become chronic and indolent, with an inclination to suppurate, the superincumbent skin is covered with Lap. caustic. chirurg. (more rarely a blister), which produces either dispersion and reabsorption, or healthy suppuration.

With respect to the frequency of secondary symptoms, private practice affords us no information. From our hospital experience, they appear to be not more frequent than under the mercurial treatment; but the form is different; that is to say, there is less venereal sore throat than exanthemata.

Gonorrhœa is a most annoying form of disease; it is cured, and is not, by every plan of treatment. Copaibia, in various forms and combinations, after the inflammatory symptoms are removed, prove more serviceable than cubebs. In gleet most advantage is derived from keeping a bougie in the urethra.

Melancholia syphilitica is a frightful disease, one for which there is often no remedy to be found, and under which the patients pine away.

This, my dear Graves, is the substance of my brief communication; but I shall always feel most happy in answering any questions you may propose. With respect to Copenhagen or Berlin I cannot give you any information, except, that in the Charité, Kluge has renounced mercury."

To render the subject more complete I shall now give the opinions of my respected friend, Dr. Staberoh, of Berlin, as communicated in a letter:—

Extract from a letter from Dr. Staberoh to Dr. Graves, dated Oct. 25, 1838.

"In the hospital at Berlin, called the Charité, syphilitic patients are still treated without mercury; even in the worst cases its employment is less frequent than in Hamburg, under Fricke. According to the published reports, the results of this treatment are very favourable; these reports you will find in detail in *Rust's Magazin*, and also an extract from them in *Kleinert's Repertorium*. But, however favourable these reports may be, one curious circumstance must be borne in mind, viz. that secondary syphilitic affections are not usually admitted into that part of the hospital destined for venereal patients, but sent into the wards of the surgical clinic, so that in the venereal

* This manuscript has been published in the preceding lectures.—Ed. Gaz.

department the great majority of cases which come under treatment are primary affections. These patients are dismissed as soon as cured, and they scarcely have in the Charité any means of ascertaining the frequency of secondary affections. The published reports naturally take a colour from the opinions of the physicians who are opposed to the use of mercury, and those who visit the wards have seldom an opportunity of watching accurately the progress of the cases. I am not aware that any comparative trials have been made between the mercurial and non-mercurial plans. Such may have been instituted formerly, but certainly on an insufficient scale. No persons could have better opportunities of making them than the army surgeons, particularly since the inspection of the genitals, directed by law, brings the syphilitic affections of soldiers under their observation from the very commencement. In order to obtain as accurate an account as possible of the treatment of syphilis in the Army I addressed myself to the 'General Arzt,' Lohmeyer. However, strange to say, there is no printed account of the matter, and the reports which are in existence are of such a nature as to preclude the possibility of stating any thing definitely. Most of the old army surgeons treat syphilis with mercury, but many of those lately appointed, and who were on the Hospital Staff when Professor Kluge followed the non-mercurial plan of treatment, do not employ mercury. They are also satisfied with their treatment, although it is said that in some instances they have had recourse to mercury in consequence of the failure of the simple method. Even were it in my power to give numerical statements they would prove nothing, since the decision of the question would depend on submitting an equal number of cases to the two modes of treatment.

As the army surgeons are not bound to any particular mode of treating syphilis, it would be easy for them to institute such comparisons, if they were conducted without prejudice. In England, physicians and surgeons in extensive practice are generally connected with hospitals also; the case, however, is quite different at Berlin. I cannot refer to Dr. Kluge's private practice, for he does very little in town; and I am acquainted with only one eminent physician who treats syphilis without mercury—and after all, his private practice is not large enough to warrant our drawing from it any conclusion. Medical men are divided on the treatment of syphilis; the physicians, however, in largest practice use mercury without looking on it as a specific. I know a physician who tried the non-mercurial plan on a small scale, without its results inducing him to change his plan of treatment. After all, if the want of confidence in the non-mercurial treatment expressed by the physicians here proves nothing, it says but little in favour of the results obtained at the Charité, and which even have been adduced by some as instances of an inefficient method. In conclusion, I shall just sum up the results of these imperfect statements, which I have not attempted to render complete, knowing that they will arrive too late to be of service.

1. The syphilitic patients in the Charité take no mercury, while in the venereal wards under Dr. Kluge's care.

2. In the surgical wards where most of the cases of secondary syphilis are found, and to which no primary cases are admitted, the patients are treated with mercury.

3. Any statement of the proportion of relapses in the cases treated at the Charité after the non-mercurial plan, must be very uncertain, if not impossible to be ascertained.

4. In town the mercurial is employed in preference to the non-mercurial treatment.

You are without doubt acquainted with the publications of an army surgeon, Dr. Bonorden, at least through the abridgment in *Kleinert's Repertorium*. He, too, seems not averse to the non-mercurial plan of treatment; and most practitioners speak of it with respect, although they do not follow it. Professor Krukenberg, of Halle, was, at least a few years since, a strenuous defender of this plan, and alluded to the employment of mercury as an instance of prejudice. Many of his pupils have brought these ideas with them into practice, but I have not as yet seen any brilliant results from them. The case may be the same as with all absolute methods; every practitioner has seen primary sores cured by simple cooling treatment."

Notwithstanding all that has been done to illustrate the pathology and treatment of syphilis, it must be confessed that these subjects are still involved in much difficulty and doubt. A fact so incontestible, and so much to be regretted, makes it the imperative duty of every clinical lecturer to contribute whatever materials his experience may supply in in elucidation of questions so important. For this reason, I have been induced to lay before you these observations on detached points of interest connected with the venereal disease. I shall, therefore, beg leave to direct your attention at present to the case of a woman, lately admitted into our wards, labouring under syphilitic iritis. From the history of her symptoms we learned, that, after a primary venereal affection, she got pains principally affecting the joints of the upper extremities, and aggravated at night. About a fortnight after admission, she was

attacked with papular eruption and syphilitic iritis. I beg you will recollect the character and order of this woman's symptoms: at first, she would not admit the existence of a venereal taint, stating that her pains were only rheumatic, and that she knew no cause for them, except cold. Now, in her case, the arthritic affection was seated chiefly in in the smaller joints; one of her wrists, and the hand and finger joints, were swollen, tender, and painful, and, at the first glance, had a very strong resemblance to the hand of a person labouring under rheumatic arthritis. It is generally believed that pains of a syphilitic character occupy chiefly the shafts and ends of the long bones; but in this instance we find that syphilitic inflammation may give rise to swelling, tenderness, and pain of the small joints, corresponding in many points with what has been regarded as rheumatic inflammation. We have another case of syphilitic inflammation of the synovial membrane and joints in a young woman in the small wards; but in this case, the larger joints are chiefly affected. It is absurd to suppose when a general disease like syphilis produces pains and inflammatory swellings, that they should be always limited to the long bones or their periosteum, for we find many instances in which the synovial membranes are also engaged. A point worthy of notice in this case is the manner in which the iritis appeared. We were treating the woman for the pains I have just alluded to, when she was attacked with iritis in a very insidious manner. There was scarcely any pain over the orbit, vision was but slightly impaired, there was no remarkable alteration in the state of the pupil; in fact, with the exception of some intolerance of light, and some conjunctival redness, there was scarcely any thing to indicate the occurrence of iritis. But whenever a person suspected to labour under syphilis gets inflammation, particularly if limited to one eye, no matter whether it commences in the internal or external tissues, you should watch it closely, for the chances are, that it will prove syphilitic ophthalmia, endangering vision. And such was the result in this case; for in four or five days the woman exhibited symptoms of decided iritis. It has been very properly remarked, that the name syphilitic iritis is calculated to mislead; for the iris, in many cases, is not the part principally or primarily attacked; and, in some instances, it appears to escape entirely, although the vision is lost. Syphilitic ophthalmia appears a better name for this affection.

There is scarcely any disease which occasionally proves so insidious in its approach as syphilitic iritis, nor is there any form of internal inflammation more variable in its progress, degree, or intensity. Sometimes it commences internally, attacking in the first instance the tissues of the iris and the adjoining parts, proceeding in its course with remarkable intensity and destroying vision completely, if not arrested at once. In such cases it is accompanied by severe pain, intolerance of light, lacrymation, and increased vascularity of the sclerotic, so that no one can mistake it; but, at other times, its approach is so insidious, and its progress so slow and painless, that vision of one eye is lost before the patient is aware of it. The iris is then seldom engaged until a late period of the disease; and the slow inflammation, by which vision is ultimately destroyed, commences in the deep-seated tissues of the eye. In many cases, as in that now before us, it takes a contrary direction, commencing in the external parts of the organ, and being usually ushered in by conjunctivitis, apparently simple, and produced by cold. Hence, you perceive, there is a great variety as to the mode of origin, progress, and intensity of syphilitic ophthalmia, and from this you will infer that there must be some diversity in the treatment. The physician is to be chiefly guided by the intensity with which it attacks the eye, and hence the treatment which would be proper for one case would be wholly unfit for another. I am anxious to advert to this matter, as I think we did not treat the case of this woman as we ought to have done, had we considered its nature more attentively. If syphilitic ophthalmia be of an intense character, attacking the iris and lens at once, and threatening to destroy vision in a few days, the activity of our treatment must be proportionate to the imminence of the danger; we must bleed, leech, and give calomel and opium in large doses, say ten grains twice or three times a day, and must continue its administration until the mouth is affected. In this instance, a disease that would destroy vision in three or four days, is cured in the same space of time, and the activity of our treatment is adapted to meet the intense and rapid character of the ophthalmia. We produce full salivation in as short a time as possible, and apply the extract of belladonna to the eylids to keep the pupil from contracting. In syphilitic iritis there are many shades of intensity, and the treatment must correspond with the existing symptoms. Now, if the disease be of a chronic nature, and has advanced slowly, it must be made to recede slowly. You should endeavour to remove it by the gradual ingestion of mercury, aided by the usual local means. In the former case you have only three or four days for action, in the latter you have as many weeks. Hence, I think, we were too precipitate in our treatment of this woman. Her disease came on slowly, and without

violent or urgent symptoms, consequently we ought to have treated her mildly, giving small doses of calomel or blue pill so as to bring the system gradually under the influence of mercury. But we salivated her at once, and the consequence was, that although she improved at first, the disease became afterwards exacerbated. Had salivation been gradually superinduced, the relief obtained would have been less speedy, but more certain and permanent.

You will, therefore, whether you treat syphilitic iritis, or syphilitic pains and periostitis, or sore throat, or eruption, be guided by the character and progress of the symptoms. If the disease has come on gradually—if it be mild or chronic in its nature, and no vital part threatened—you may take time, and proceed gradually in mercurializing your patient. But where the vitality of any organ or part is endangered, you must act with promptitude, and throw in mercury, as it is termed, at once. Thus, where syphilitic ophthalmia attacks the eye in such a manner as to be likely to destroy vision in a few days, it will be necessary for you to give 5 or 10 grain doses of calomel, three times a day; and the same line of practice will be required when periostitis attacks the orbit, particularly the thin plate of bone between the eye and the brain, or when it fixes itself in the internal table of the cranium, and threatens the dura mater.

I may observe here that a consideration of the nature of those tissues, in which scrofula is most commonly developed, will give you much information with respect to the administration of mercury in venereal affections, and the energy with which this agent is to be employed on various occasions. The vitality of the white tissues is low, and their inflammatory affections of a more subacute and chronic character; and hence not demanding such energetic treatment as where tissues of a higher order are attacked. This you may lay down as a general rule. But there are some exceptions, as in the case of an organ composed of various tissues, as the eye; or when it attacks purely albuminous tissues in a very acute and intense form. In general, the vitality of periosteum and bone is low, and so is that of most of the tissues of the eye; and whenever you have to treat inflammations of such parts, you should not expect to be able to produce any sudden change, for parts of this description require a considerable time for the restoration of their healthy functions. Hence, in the majority of cases, periostitis and syphilitic ophthalmia, with the exceptions already alluded to, are to be removed by a mild alterative treatment, by small doses of mercury and gentle frictions, so that some weeks shall elapse before the mouth is affected. Nor should you attempt to bring on full salivation: touch the gums slightly, and keep them in that state for some time, exhibiting as much mercury as will just keep its influence in the system.

I have already devoted some lectures to the consideration of periostitis, and it is unnecessary to refer to it again; but I may observe, that you will require considerable discrimination to determine in some cases whether the affection you are about to treat is syphilitic or not. You will find many examples of periostitic inflammation depending wholly on a scrofulous taint in the constitution; for scrofulous inflammation is often fugitive, and attacks the periosteum before it fixes in the bones. You may also have periostitis from rheumatism, or from gout; but one of the most common causes of periostitis, in persons not labouring under syphilis, is connected with the secondary effects of mercury on the constitution. Persons who have taken mercury for any disease, no matter whether it be pneumonia, pleuritis, or hepatitis, are afterwards subject to periostitic inflammation, and this liability continues not for months, but even years. Indeed, periostitis is one of the most common effects of mercurialization, particularly if the patient be exposed to cold while taking mercury. In the course of one, two, three, five, or even a greater number of years, exposure to cold, a blow, and other apparently trivial causes, will give rise to periostitis in some individuals. I am at present attending, with Mr. Crampton and Mr. Cusack, a gentleman labouring under periostitis of the tibia and cranium; and on inquiring into the history of his case, we found that it is nearly nine years since he was salivated. I have also witnessed a very severe case of periostitis affecting the shafts of both tibiæ in a lady who took mercury about five or six years ago for supposed hepatitis. One of the most remarkable cases of periostitis after mercury which have ever come under my notice, I have recently witnessed in the person of a gentleman who was for some years surgeon to the British Envoy to Mexico. In that country, raised nearly 12,000 feet above the level of the seat and exposed at once to sharp winds, and a burning tropical sun, fevers of an intense character often prevail. Some time after his arrival, this gentleman was attacked with fever, for which he was fully salivated. He caught cold during his convalescence, and was attacked with periostitis, for which he took mercury again with relief. Next year he caught cold again, was again attacked with periostitis, and cured by mercury, as before. The year after, the same series of accidents was repeated. I forget how many successive attacks he had, each originating from cold, and each, like the former, removed by mercury. At length the mercury seemed to lose its power over the disease, and was no

longer capable of relieving it. He returned to this country with the view of improving his health by change of air, and presented a most extraordinary spectacle. The periostitis had chiefly fixed itself in the cranium, which it had altered so as to have no longer any resemblance to the human skull. When I saw him, a considerable portion of the pericranium and bones of the head had been affected with periostitis for three years, without any intermission. His skull would have defied the scrutiny of Gall or Spurzheim, for its shape was the most extraordinary I ever witnessed. He was in the habit of taking large quantities of opium to procure some alleviation of his sufferings, and was restless to such a degree that he was frequently for fifteen or twenty nights together without an hour's sleep. Altogether he was in the most pitiable state; and seldom got any relief until the attacks were wearing off, when he enjoyed some brief intervals of repose. Some fifteen or twenty years ago, when the subject of the treatment of syphilis was warmly canvassed, it was asserted by the mercurialists that mercury never gave rise to nodes or periostitis, unless where there existed a syphilitic taint in the constitution. Now I can attest from manifold experience that this is not true. The gentleman whose case I have related had never been affected with syphilis. But there is no necessity of insisting on this point. Every practical physician knows that mercury may and does give rise to a train of symptoms bearing some analogy to those of secondary syphilis. Thus, after the use of mercury, a patient may be attacked with feverishness, pains in in the bones, nodes, sore throat, and an eruption, to which the name mercurial eczema has been given. Here you perceive we have a remarkable analogy between the diseases produced by mercury and syphilis. Mercury, when exhibited improperly may produce all the affections I have enumerated, and in addition to these caries of the bones, particularly of the nose and palate. It is well known that some active remedies have a tendency to produce diseases somewhat analogous to those they are known to cure. This is frequently observed with respect to mercury, belladonna, strychnia, quina, hydriodate of potass, and some other powerful medicinal agents. In fact, it is hard to expect that a remedy will cure a disease affecting a certain tissue or tissues, unless it has some specific effect on such tissues; and in this point of view we have an example of the "*similia similibus curantur*" of the homœopathists.

Mercurial ostitis of the head is a very common form of disease: its more usual seats are the frontal and parietal bone; but it is sometimes observed also on the other bones of the skull. In general, the inflammation affects the external table of the bone, and is then easily recognized from the tenderness and swelling of the corresponding portions of the scalp. Sometimes, however, the inflammation commences in the internal table of the skull, and where this occurs, the disease wears a much more alarming aspect, for it is then apt to implicate the dura mater and subjacent portion of the brain. In such cases, the true nature of the complaint is not unfrequently overlooked, or mistaken for some other disease causing headache. This is a very serious and fatal error; for unless the physician is aware of the real nature of the malady he has here to contend with, he will seldom adopt proper measures, and the patient will fall a sacrifice. Such cases are indeed obscure, but we may in general make out their true nature by a careful attention to their history. Thus, if severe nocturnal headaches arise in a person who has ostitis in other bones, and if the pain darts from some fixed point, then, although all external tenderness be wanting, we may safely conclude that the cerebral affection originates in ostitis of the cranium. In investigating such cases, I have derived much advantage from percussion. I place the back of one finger on the patient's head, and tap it smartly with the fingers of the other hand. If internal ostitis be present, every tap excites a peculiar internal pain in the part affected, which pain is the greater the nearer the part percussed is to the seat of the disease.

You have seen in our wards several men complaining of very agonizing headache without any external tenderness; and you have witnessed in these cases the failure of the common means for relieving pain in the head, and the success which followed the adoption of a treatment founded on a true diagnosis of the disease. This headache, yielding to no other species in severity, deprives the patient altogether of rest—occasionally occupying chiefly one side of the head—and most severe at certain hours, is not unfrequently mistaken for nervous hemicrania, and treated with iron! When ostitis occupies the external table of the cranium, it seldom strikes inwards, so at to engage the internal, and disorder the brain. That it does so sometimes appears from several cases; among the rest, that of Mary Wilkinson, admitted into our ward on the 21st of October. In her the scalp was excessively tender, and felt in one part thickened and boggy. There was dilatation and increased pulsation of the external arteries supplying that side of the scalp. On the 27th, the headache increased, and she fell into a state of profound coma, with dilated pupils, insensible to the light; the extremities were cold, and pulse scarcely perceptible. Luckily,

while in this state, the mercury previously administered began next day to affect her mouth, and, aided by large doses of calomel, and powerful blistering, soon restored her. Such a recovery very seldom takes place. Ostitis is also very dangerous when it occupies the orbital and contiguous portions of the frontal bone. It is very obscure when seated at the base of the skull.

Mercurial ostitis is a very common occurrence in the cervical vertebræ, but comparatively rare in the dorsal. In the lumbar it becomes again more frequent, but not so much so as in the cervical. I have, however, seen some cases where the dorsal vertebræ appeared to be almost all engaged in the disease, and where, consequently, the greatest agony was experienced on their being touched or moved. Pathologists have not yet paid sufficient attention to the species of neuralgia which is occasioned by inflammation of the nerves or their sheaths, spreading from the surface of the bones through which they pass.

Nothing is more certain than the fact, that in many, the abuse or even the use of mercury renders the constitution disposed to ostitis on future occasions, when cold and damp act on the body, especially if fatigued by exercise, or exhausted by dissipation. This ostitis is consequently called mercurial: but this name must not mislead us; for, strange as it may appear, the disease often yields readily to mercury—a mode of treatment generally effectual for the moment, but attended with the obvious disadvantage, that it leaves the patient more liable than ever to future and severer relapses, which will at last refuse to yield to mercury.

BI-MECONATE OF MORPHIA.

To the Editor of the Medical Gazette.

Sir,

In reflecting upon the influence of the artificial salts of opium, and the powers of opium itself on the animal economy, it appeared to me that, like other natural products, the combination of the active principle in the substance, as prepared by the hand of nature, would prove most beneficial as a therapeutic agent, if it could be separated from the other components of the vegetable body.

Impressed with this idea, I have instituted a series of experiments, with a view to procure the bi-meconate of morphia as free from the other ingredients of opium as possible, and have obtained a preparation which not only answers these anticipations in a chemical point of view, but which has also, from the experience of several medical friends, fully answered my expectations of its medicinal advantages over the artificial preparations of opium. The subjoined reports are illustrative of this fact, and induce me confidently to submit the preparation to the profession generally, and to call upon the members of it for an opinion of its value: if this correspond with the trials already made of it, I shall not only look to the support of the faculty for its employment, but shall feel a high gratification in having enhanced the value of a medicine which, when properly administered, may be regarded as one of the choicest gifts to suffering humanity.

I have the honour to remain,

Your obedient servant,

P. Squire.

277, Oxford Street,
March 4, 1839.

Note from Dr. Macleod to Mr. Squire.

Dear Sir,—I have now used the solution of the meconate of morphia in cases sufficiently numerous to enable me to form an opinion with respect to its powers.

It appears to me to be a very mild and efficient preparation, rarely producing headache or other discomfort. It has repeatedly answered, in the most satisfactory manner, where opium had disagreed, and has succeeded in some cases where the other salts of morphia (the acetate and hydrochlorate) had failed to give relief.—I am, dear sir,

Your obedient servant,

R. Macleod.

1, Lower Seymour Street,
Feb. 14, 1839.

To Mr. P. Squire, from Henry Brandon, Esq.

My dear Sir,—I have much satisfaction in complying with your request to furnish you with an account of the effect which the solution of meconate of morphia (same strength as laudanum) has had upon me, in comparison with other preparations of opium that I have taken.

My experience, as an individual, may probably be interesting, as well as somewhat useful.

I have been the martyr to a spasmodic affection of the muscles for upwards of fourteen years, and was obliged, after

trying every other means in vain, to have recourse to opium.

I have taken crude opium, laudanum, the aqueous extract of opium, black drop, liq. opii sedativus, and acetate of morphia; and I declare that not one of them has succeeded so well as the meconate of morphia, which relieves much sooner, and without disturbing the stomach, leaving the system altogether in a more natural state of repose. My experience has taught me that anodynes ought to be taken in solution, having found, that when taken in the solid form, they irritate by producing qualms in the stomach, frequently amounting to nausea. The aqueous extract does this less than the crude, but narcotics are much more free from the exciting quality when in solution; and the solutions themselves, the purer and more free they are from the resin and other impurities, the less do they produce that unpleasant effect; whether there be any additional cause why your meconate of morphia relieves so much quicker and strongly than others you yourself best know.

My firm belief is, that the qualm or unpleasant sensations in the stomach interfere materially with the soothing properties of the opium, and finding your preparation so free from these objections, added to the taste remaining a much shorter time on the palate than is the case with the other preparations of opium, I am induced to continue the use of it.

The greatest quantity of opium that I ever took was in June 1838, at which time I was suffering under a dreadful attack, when in seven consecutive days I took as much as 540 grains of the aqueous extract of opium, which is equal to 810 grains of the crude.

I have taken ten grains of acetate of morphia at a dose. My total consumption of opium for the year 1838 was equal to 49 pints, 1 oz. laudanum and upwards.

It is singular that none of the preparations of opium have ever confined my bowels or injured my appetite, although I take no exercise; indeed a large dose of opium invariably increases my desire for food, and sometimes to a ravenous degree.

I shall now conclude, and believe me, my dear sir, yours very truly,

HENRY BRANDON.

14, Percy Street, Bedford Square,
Feb. 18, 1839.

To Mr. P. Squire, from A. T. Thomson, M.D., Professor of Materia Medica in the University College, &c.

Dear Sir,—I have given a fair trial to your new preparation of opium, the bi-meconate of morphia, which when separated from many of the other constituents of the opium, undoubtedly possesses anodyne properties superior to any of the salts of morphia in ordinary use. I have not had many opportunities of administering it in the hospital, but where it has been given, in painful affections, its influence has been most striking.

I have administered it in three cases in private practice, well calculated to illustrate its properties.

The first was a neuralgic pain of the left side of the face, extending from the temple to the molar teeth of the upper jaw. It remitted during the day, but never wholly subsided, and returned with frightful severity at night. Among other means which were employed, anodynes of various kinds were tried, both topically and internally administered—namely, extract of opium in combination with calomel—hydrochlorate of morphia—acetate of morphia—Battley's sedative—and the black drop; belladonna, in small and frequently repeated doses; and in the form of plaster, hyoscyamus, both extract and tincture—and the extract of aconite. Temporary ease was obtained from the salts of morphia and the extract of aconite, but no permanent advantage resulted, although the pain assumed more of an intermittent character; and, consequently, disulphate of quina and the arsenical solution had been freely administered. The strength of the patient was nearly worn out from want of sleep; and, under these circumstances, your solution was prescribed. Thirty minims were prescribed in a fluid ounce and a half of camphor mixture at bed-time. Two hours' sound sleep were procured, and, on awaking, the patient felt the most satisfactory abatement of her sufferings. She was ordered to continue it in doses of eight minims, in combination with fifteen minims of the arsenical solution, every third hour during the day, and to repeat the full dose of thirty minims at bed-time; whilst, at the same time, the bowels were kept moderately lax. The most gratifying results followed this plan of proceeding: the pain gradually yielded; in less than a

week she had comfortable nights; after which the dose of the solution was rapidly diminished; its use discontinued during the day; and in the third week I had the satisfaction of leaving her perfectly free from the complaint.

The second case was one of wakefulness without any apparent cause. All the usual preparations of opium had been tried without much benefit, and with suffering from headache and nausea in the mornings following the nights on which the narcotics had been given. The solution of bi-meconate of morphia was given in doses of twenty minims; it effectually procured sleep, and was not productive of the morning distress which had supervened on the use of the other preparations of opium.

The third case was one of anomalous pain of the hip extending down the thigh, which recurred three or four times in twenty-four hours. The patient had been frequently attacked with rheumatism; and conceiving it to be connected with that disease, the part was cupped, and the guaiacum mixture, with small doses of the blue pill, was prescribed. Little benefit resulted until a week afterwards, when I ordered the part to be blistered, and the denuded part to be dressed with a piece of lint dipped in your solution thrice a day. The pain rapidly abated, and on the fourth day it was completely gone.

From the limited experience which I have had of the use of the solution, I am of opinion that it possesses decided anodyne properties, and stimulates less than opium or its tincture, and is much more certain in its influence than any of the artificial salts, or other preparations of the drug.—Believe me,

Yours, truly,

ANTHONY TODD THOMSON.

3, Hinde Street, Manchester Square,
4th March, 1839.

VACCINE REPORT.

To the Editor of the Medical Gazette.

SIR,

IT was not my intention to trouble you so soon with another communication; but as a Report to the Government has just been published by the National Vaccine Establishment, bearing closely upon the subject respecting which I had before addressed you, I shall be obliged by your allowing me space for noticing two parts of that document.

A very decided opinion has been given in that Report upon a most important point relating to vaccination, with all the *authority* certainly of the National Vaccine Board, but, as it appears to me, without that proof of its correctness by which such an opinion ought to be supported.

In the present state of our experience, and of our *ignorance* with respect to vaccination—deficient as the virus in ordinary use has for several years been in reproducing a well-marked vesicle, attended by that extent of local and constitutional affection which characterized the disease twenty years ago—prone as the lymph has been, after being kept for only a few days, to lose its infecting properties — and painfully shaken as public confidence is known to be in every village and town throughout the kingdom in the power now possessed by vaccination of affording protection against small-pox—I cannot but think that the attempt to renew our stock of virus occasionally, from the original source, is discouraged in this Report by a *dictum* little suited to the present age of philosophical investigation.

It is not my purpose to argue that the evils so seriously felt will be entirely, or even partially, removed by the introduction of fresh supplies of lymph into practice (though I hope soon to address you on this subject); but while so much uncertainty exists as to the cause of those evils, it appears to me that the National Vaccine Board was bound to adduce stronger arguments against the rational proceeding of occasionally procuring fresh virus from the cow than that "the animal is subject to more than one eruptive disease, and a mistake might possibly be made in the selection of the proper pustule by an inexperienced hand." The *mistakes* liable to arise from carelessness and inexperience are not peculiar to vaccination.

The other remark I have to make, refers to the number of individuals mentioned in that Report, through whose constitutions the virus now in use is said to have passed.

It is stated, that the lymph now employed at the National Vaccine Establishment, is some that has descended

through an uninterrupted series of patients, from the original virus introduced by Dr. Jenner. Whether the records of the establishment have been so accurately kept during forty years as to prove this satisfactorily, and to establish the fact that lymph, from some unknown source (perhaps from cow more recently infected than than those diseased in Dr. Jenner's day), has never superseded the older virus, I have no means of determining; but it is not difficult to perceive that much misapprehension will be the consequence of an implicit reliance on that document which is now presented to the Secretary of State, and circulated through this and other countries.

The Report, after expressing regret that a recurrence to the cow should be thought necessary, and after stating the opinion that "it is not in the nature of any other communicable virus to degenerate and lose its influence," (an opinion, however, contrary to that of many medical authorities,) goes on to affirm, as a proof of the "efficiency of the original vaccine lymph, introduced at the vaccine establishment by Dr. Jenner," that it has "passed through nearly a million of subjects successively, of whom many thousands have been exposed, with entire impunity, to smallpox in its most malignant form."

Now it is only forty years since the introduction of vaccination, and, however numerous may be the subjects that have been vaccinated at one time from the same individual, the stock of matter at present employed at the National Vaccine Establishment can only have passed through 2080 subjects, even supposing that lymph for subsequent vaccination had been taken every seven days from a fresh subject, without any interrupton, from the time when Dr. Jenner first sent it to London. In order that it should pass through a million subjects, the lapse of 19,230 years and 10 months would be required.

In periods of general alarm, to what extent it may be justifiable to have recourse to the *pious fraud* of strong, and not very accurate, statements, for the purpose of calming the public mind, I am not casuist enough to determine; my preference, however, is for truth and correctness at all times; and I cannot but think it a matter of regret, on the present occasion, that an official document should have emanated from the National Vaccine Establishment of England, attested by the name of the learned President of the Royal College of Physicians, and destined to be circulated, not only throughout our own kingdom, but in countries where great attention is paid to the accuracy of medical statistics, so expressed as to refer the origin of vaccination to such a remote period as thirteen thousand years before the beginning of the world.

I am, sir,
Your obedient servant,
J. B. Estlin.

Bristol, March 4, 1839.

ON DISEASE OF THE PETROUS PORTION OF THE TEMPORAL BONE,

SHEWING THE PECULIAR FORM OF INFLAMMATION WHICH IT PRODUCES IN THE MEMBRANES OF THE BRAIN.

To the Editor of the Medical Gazette.

Sir,

In the majority of cases of disease of the petrous portion of the temporal bone, there are symptoms present which diagnosticate that the internal ear is in a diseased condition for a considerable length of time previous to any affection of the membranes, or of the brain itself.

The surface of the petrous portion, which forms a part of the internal ear, is most frequently also primarily diseased, and among the more frequent symptoms of its existence, are pain within the ear, accompanied with a discharge of thin purulent secretion from the meatus auditorius externus.

Before this disease produces any affection of the membranes of the brain, the pain within the ear (although it had been present in the ears of some for months, and of others for years) becomes aggravated suddenly; it also occupies much a greater portion of the side of the head than on previous occasions; indeed, in some cases it involves the whole of the side of the head where the diseased ear exists. The severity of the pain also differs according to the suppression or evacuation of the discharge from the ear; when the discharge is suppressed, the pain is aggravated; on the contrary, when there is discharge, the pain is alleviated.

Although, in the majority of instances, the affection of the ear partakes of a chronic character, nevertheless we meet occasionally with the contrary; and when the disease assumes a much more acute form, the inflammation of the membranes is only preceded for a short time by acute pain within the ear, accompanied with sanguineous discharge from the meatus. If ulceration exists, then small spiculæ of bone are noticed, mixed with the latter secretion.

When there is much pain within the ear, and also sanguineous discharge, we find, that in the majority of cases, these symptoms are soon succeeded by those of inflammation of these membranes: this occurs previous to any ulceration of the petrous portion in contact with these membranes; and it frequently happens that there is only discoloration of this part of the bone. Sometimes the brain is affected in these cases without any general affection of the arachnoid membrane; this is accomplished in the following manner: the inflamed portion of bone causes slight inflammation of the portion of arachnoid in contact with it; and the symptoms differ considerably from what takes place when the arachnoid membrane is implicated generally. When the portion of the dura mater which lay immediately in contact with the diseased portion of bone is undergoing the ulcerative process, the deviations from the previous symptoms are but trivial in disease of the petrous portion of the temporal, as well as the other bones of the skull. In six cases which came under my notice, where the membranes of the brain became implicated by inflammation—the result of ulceration of the bones of the head, there was no deviation in the symptoms, whilst the dura mater only was effected; so that I am induced to believe that the violent symptoms accompanying these cases are produced by inflammation of the arachnoid membrane, as I have met with instances where death had taken place from softening of the brain, and in these the violent symptoms (present when the arachnoid is effected), were completely absent. Although the arachnoid membrane does occasionally escape, in these cases, in the manner previously related, nevertheless, in the majority, it is implicated in the inflammatory action. When there was much lymph effused, the symptoms of its existence were sufficiently conspicuous previous to the patient's death. When the bone and dura mater are undergoing the morbid process of ulceration, the symptoms present are generally slight pain in the part affected, combined with shivering; also considerable diminution of the patient's corporeal vigour. When the dura mater is destroyed, the patient recovers occasionally from the effects of the destruction; but when I have seen recovery from this, and the patient died of another disease, a fissure was left between the divided edges of this membrane, which fissure was partially filled by lymphatic deposit, instead of the two edges uniting together. I have had opportunities of witnessing patients who were effected with ulceration of the bones of the head, though the latter had been in progress during several months in succession, and had even caused destruction of the dura mater; yet, when the arachnoid membrane became implicated, the pain soon became much more acute than on former occasions; the pain also occupied a much greater portion of the side of the head; even in some cases it extended over the whole of the head, and the whole body was affected with a tremulous motion. There was also much vomiting, which vomiting even continued in some cases for several days in succession; both pupils of the eyes became much contracted, and more sensible to the impression of light.

When the arachnoid membrane was implicated, the pupil of the eye deviated considerably in one or two instances, on account of a large quantity of lymph having collected in the neighbourhood of the diseased bone. The pupil was, on the opposite side, slightly dilated; also more insensible to the impression of light.

The situation of the lymph deposited in these is different from what it is in other cases, as erysipelas, &c.; it is almost invariably within the cavity of the arachnoid membrane; even in some few cases where the patients had lived during several days, the lymph had collected in such large quantities, that it even produced pressure on the hemisphere, and interfered with its functions so much, as to produce slight hemiplegic symptoms.

The pia mater in some cases adheres

with much firmness to the brain, but in the majority it is infiltrated with a considerable quantity of lymphatic deposit.

The situation of the softening of the brain differs considerably according to the surface of the petrous portion, which is mostly diseased; if the anterior, then the softening is within the inferior part of the lateral hemisphere of the cerebrum; if the posterior, then the cerebellum is the part affected.

When a portion of brain is affected in these cases, it does not follow that there is deviation of the whole brain from the normal condition, as is the case in the majority of apoplectic patients: in the latter we find the greater part of this structure somewhat changed.

Although an abscess of considerable magnitude has been formed in the inferior part of the lateral hemisphere, nevertheless the superior part of the same hemisphere remains without any appearances of morbid deviation of structure.

In some cases the softening of the brain is superficial, though in the majority it penetrates deeply into the structure of the hemisphere, and even forms abscesses of large size, in which there is deposited one or two ounces of puriform secretion. The contents of cavities formed by inflammatory softening of the brain in some cases finds its exit from the latter into the spinal canal, so as to bathe the spinal marrow with this secretion.

I recollect examining the body of one of Dr. Bright's patients, where the contents of these cavities had found its exit, so that it bathed the whole of the spinal marrow.

The symptoms accompanying inflammatory softening of the brain in these cases, as well as others, are sometimes very obscure; indeed, even so much so, that in some the only symptom present is a deviation in the pupil of the eye: this is dilated, and also slightly insensible to the impression of light; the pupil dilated is generally on the side opposite to that where the softening exists. The condition of the pulse varies considerably. In the majority it is laborious and compressible; in others, on the contrary, it is remarkably feeble and quick. It is by no means uncommon to meet with patients who are affected with inflammatory softening of the brain remaining without any hemiplegic symptoms (even when this is produced by diseased petrous portion of the temporal bone, or independent of the latter), yet, from some exciting cause, the patient falls suddenly into a comatose state: this state differs from an apoplectic fit, because the patient remains sensible to external impressions; nevertheless, when he recovers he remains hemiplegic. Previous to a limb being paralyzed from inflammatory softening, it is affected, in the majority of cases, by convulsive movements; previous to any loss of power, this is generally on the side opposite to that where the softening is situated.

I am, &c.,
THOS. J. RODERICK.

39, South Audley Street.

MEDICAL GAZETTE.

Saturday, March 9, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

QUACK MEDICINES.

THE persons who take quack medicines might perhaps be conveniently divided into three principal classes. The first consists of patients who have money in their pockets, but having long suffered under some incurable disease, become tired of regular practitioners, and naturally fly to those who give them a moderate quantity of physic and the most consoling promises, in return for their thirteenpence-halfpenny. A lady, for instance, has a cancer: the most eminent surgeons in London shake their heads, and hint to her friends that the patient can hardly expect to see another year. Can we wonder if she listens to the charlatan who proffers his diamond ointment, and declares that it has cured cases even worse than her's; or can we hope to retain such patients uninterruptedly before the era arrives when medicine shall be a less imperfect science, and cancer no longer an *opprobrium chirurgorum*? Something might, no doubt, be done by

a clear and cool exposition of the non-existence of the real disease in the pretended cases of cure; and something by setting forth the mischief often done by arsenical caustics in disguise, in this and other maladies; but, on the whole, as long as drowning men catch at straws, and the sick cling to life with instinctive pertinacity, so long will quacks reap a harvest from incurable diseases.

The second class consists of patients in straitened circumstances, and of defective education, who are charmed with the facility with which their ailments can be knocked on the head by the appropriate remedy for each, which is to be obtained at the stationer's shop in the next market town. No fear of a doctor's bill—a poor fallible doctor! The remedy is cheap, and has the agreeable peculiarity of never failing; and the only difficulty the patient can experience is that of choosing among so much excellence; for, in good truth, nostrum treads upon the kibe of nostrum, and each patent medicine embraces so wide a field, that it threatens to dim the glory of all the others!

One method of diminishing the numbers of this class would be to abolish the stamp-duty on quack medicines; as there is no doubt that not only the staring clodhopper, but even the half-enlightened cockney is entrapped by the official brand, and mistakes recognition for approbation. Something, too, might be done by the circulation of short and readable treatises on matters touching health and life; not scientific disquisitions, praised and yawned over, but little books, entertaining as a novel, and practical as a ready-reckoner. Thus, in the section on carbonic acid gas, its chemical history should be given most laconically, but its effects should be detailed, whether it is sent forth from the choffer of Parisian suicides, the colossal vat of the London brewer or the last patent stove. The history of quackery, again, would make a capital chapter, in which St. John Long and Morison would play the chief parts, and teach the most careless reader what ignorance, combined with boldness, can do. These men have certainly instructed the world, if not in the virtues, at least in the vices of caustics and colocynth:—

——— "and, oh! too high
The price of knowledge, taught us how to die!"

The third class contains the most eccentric patients; those who, possessing the means of obtaining the best advice, and not maddened by any irremediable distemper, yet fall into the toils of the charlatan. In some cases the illusion has been so strange, and the event so fatal, that we can compare the victims to nothing but to those unfortunate creatures who, in Scottish stories, are called *fey*, and who are hurried on to destruction by an irresistible impulse. Such instances are those of the elder Miss Cashin and Mrs. Lloyd, flayed to death by St. John Long, and of Captain Mackenzie, who, when labouring under a slight attack of rheumatism, was purged out of the world *Morisonically*, by a hygeian agent. It is hard to propose any preventive of such cases as these, which seem destined to be illustrations of the old maxim, that Jove deprives of their senses those whom he wishes to destroy: it is difficult to conceive any diffusion of light so penetrating as to reach people of this sort.

We must not omit, however, one certain method of diminishing quackery without the limits of the profession, and that is, by suppressing it within them. As long as medical practitioners attempt success by puff and fraud—by books vulgarly gross, addressed to the passions of the mob, or craftily presuming on their ignorance—so long not only will the culprits be laughed at if

they presume to censure quackery, but the whole profession will be held contaminated by their misdeeds. The frequency as well as the existence of these transgressions are confessed by Dr. Cowan, in a pamphlet which he published some months ago on this subject *. He says—

"We are not forgetting the melancholy fact that much quackery is to be found *in the profession* as well as out of it, and that medical men have unblushingly come forward in its defence, either vaunting some nostrum of their own, or lending the influence of their names to the propagation of error and imposture; that they have become the mercenary hirelings of audacious adventurers, and merged in the depths of their selfish cupidity the best interests of the profession they were bound by every honourable feeling to support."

In an amusing answer to Dr. Cowan's address, concocted by certain venders of quack medicines in Fleet Street †, they exult in this frank confession, and, quoting the parable of the beam and the mote in the eye, require him to profit by it. Impartial judges, however, would probably decide that, after all, the quackery out of the profession was to that in it as a million to one; and that the latter was the discreditable exception, while the former was necessarily the rule. The quack, they might say, was like some noisome reptile breathing naturally in the close air of his native cavern; the regular practitioner, accustomed to a healthier atmosphere, must perish if he fell into the same place.

For our own part, far from wishing to defend the graver acts of quackery sometimes practised in our profession, we would rather see every thing eschewed that bore even a distant relation to it; as, for instance, all unnecessary mystery about a case, or the method of treating it. Dr. Baillie was celebrated for the lucid view of a case which he would give to the patient or his friends, and if his example were generally followed, it would raise the character of the profession both for intelligence and frankness.

One of Dr. Cowan's arguments is not to our taste, it is an *argumentum ad misericordiam*, as follows:—

"That our privileges are grossly infringed, no one can reasonably deny; that the long and expensive education we are required to undergo, does not secure to us those advantages which we have a right to expect, is equally beyond dispute; and that our medical corporations and all existing legislation fail to shield us from the aggressions of the unqualified practitioner, of every kind and degree, are equally facts of which no doubt can be entertained."

And then he goes on to quote a living writer who compares the lot of the medical practitioner with that of the clergyman, the lawyer, and the political adventurer; and it is no doubt less brilliant than any of the others. But we are convinced that the entire suppression of quackery would not add one per cent. to the incomes of the profession; nor would it have the least tendency to persuade our rulers to raise medical practitioners to the peerage—and this is the grand point in which they fall below the level of lawyers, clergymen, and politicians.

Dr. Cowan says it is a common remark that laws against empiricism are too great an infringement of personal liberty, and that people must be left to quack themselves or not, as they like. To this he replies that the right of legislative influence has long since been decided. In the time of Henry V., for example, it was provided in the draught of an Act of Parliament, that "no one shall use the mysterie of fysick under a

* Observations on Quackery, addressed to the Members of the Provincial Medical and Surgical Association. By Charles Cowan, M.D., Physician to the Reading Dispensary. (Annexed to the Report of the Proceedings of the Association in 1838.)

† Letter to Charles Cowan, M.D., Physician to the Reading Dispensary; in answer to his "Observations on Quackery, addressed to the Members of the Provincial Medical and Surgical Association." Second Edition. London, 1839.

penalty of forty pounds fine and imprisonment, unless he hath studied it in some University, and is at least bachelor in that science." And for centuries subsequently, laws and penalties were multiplied on the same subject, and the attempt was made to keep the "mysterie of fysick" from profane hands. True; but those were the ages of restraint and legislative dictation. It was not enough to fix the political and religious creed of the subject, and that with such anxiety, that, as a foreigner observed, under Henry VIII., Catholics were hanged and Protestants burnt; but the collective wisdom of the nation settled the price of hats, caps, beef, and pork; and at an earlier period curtailed the exorbitant length of fashionable shoes, and passed sumptuary laws to stint the luxuries of the middle ranks. It is no wonder that the legislature ordained how people should be doctored, when it was enacted how they should be dressed:—

A strait waistcoat on him, and restrictions on me,
A more limited monarchy scarcely could be!

Now we need not remind so intelligent a writer as Dr. Cowan evidently is, that we are the very antipodes of our ancestors in all these matters; the prices of beef and pork sink or swell as Smithfield pleases; we wear our shoes as long as we like; and spend all we have, and sometimes a little more. Is this a time, then, to ask for new restrictions, however wholesome? The heavy fetters have been taken off, and the prisons thrown open; are we to beg for a few handcuffs and a cage, just for our friends and families?

The Council of the Provincial Association seem to think nearly as we do; for they say in their Report, that "no legislative enactment could be so framed as to prevent those who are ignorant from placing reliance on quacks, and it would not be easy to interdict the swallowing of their pills and potions; but though legislative authority may not have either the right or the power to suppress quackery, it need not give it sanction and support, as is now done."

When the subject was discussed during the proceedings at the last anniversary, Dr. John Conolly took a similar view, and thought that the Association by going in form before Parliament, to complain of quackery, "would be merely shewing a feeling of irritation, without effecting any good."

We are not quite so sure of this, as it is possible that mooting the question might in time effect the withdrawal of the stamp, which would be almost equivalent to a declaratory act against quack medicines. It ought to be borne in mind, too, that the revenue obtained from these nostrums is extremely small, as Dr. Cowan has shown.

We will continue this subject in an early number.

CLINICAL LECTURES ON SURGERY,

Delivered at the Middlesex Hospital,

By Mr. Arnott.

1. *Loose Cartilage in the Knee-Joint.—Extraction.*
2. *Attached Growth in the Knee-Joint.—Excision.*
3. *Penetrating Wound of the Knee-Joint.—Hernia of the Synovial Membrane.*

There are several cases of affections of the joints which may be advantageously brought together in the present lecture, for the sake of comparison and remark.

William Morgan, æt. 20, a gentleman's servant, was admitted into the hospital on account of swelling and stiffness of the left knee, of three weeks' duration, which incapacitated him from following his employment. The swelling was found to be dependent on effusion into the cavity of the joint, and slight tenderness was complained of on pressure of the parts.

The case was viewed as one of inflammation of the synovial membrane, and

treated accordingly: the patient was kept in bed; he was cupped on the part; and afterwards the spirit-wash was applied. Under this treatment the swelling had completely subsided at the end of a fortnight, and he was allowed to get up, when he experienced a snapping in the joint, and accidently felt a substance moving in it, to which he called my attention at my next visit. It proved to be a solid substance of flattish form, apparently about the size of half-a-crown, free in the joint, and which could be made to project on its outer or inner side; in short, a loose cartilage. Such bodies have usually interfered with the functions of the part for a considerable time before their presence has been detected; in the present case the man denied having ever suffered any inconvenience until three weeks previous to his admission into the hospital. He had never experienced that sudden, intense, and peculiar pain sufficient to throw the patient down—generally the most characteristic symptom of the affection, and dependent on the body getting between the articulating ends of the tibia and femur, or between the latter and the patella. In the history of such cases, it has usually been stated the joint has suffered some injury at a more or less distant period; but here no such accident could be recollected.

Loose, and acting as a source of irritation to the joint, why was not this body at once removed? Because the operation for its removal, simple as it is, is not devoid of danger, arising from incised wounds of joints being occasionally followed by inflammation; because this inflammation, when once excited, is apt to be of a very violent character in its local and constitutional effects, and more especially because of its intractability. For these reasons it was endeavoured to fix the cartilage in the joint without opening it; to fix it, because the evils chiefly arise from its mobility. It was brought to the inner side of the patella, where it rested flat against the anterior surface of the inner condyle; and first by means of strapping, and afterwards by means of a bandage, it was sought to confine it in this situation, but without success, the least motion of the joint displacing it. A plan, which I have sometimes known to succeed, was next tried—a ring usually of metal covered with lint, but in the present case one of India rubber, was placed over the cartilage, so as to include it, and was maintained there by means of a roller and a splint on the back of the limb; afterwards this was tried with a double inclined plane, such as is used for fractured thighs, instead of the splint, the knee being somewhat bent. The object, however, of getting the body to form a bed, and become fixed in this situation, could not be attained, from its size, from its constant tendency to slip from under the ring, and from the requisite pressure of the ring causing great pain. The patient was therefore informed that he must either put up with the inconveniences to which he was subjected from the presence of this substance, or submit to an operation for its extraction, the chances of which were not concealed from him; and he solicited that it should be done.

Certain precautions are necessary in the performance of this operation to guard against inflammation, the chief of these being the insuring of absolute rest to the part injured for some time afterwards; and this is usually effected by confining the patient to bed, and the application of a splint to the limb. It is prudent that this constrained position should not for the first time be resorted to immediately after the operation; but that it should be adopted a few days previously, in order that the irksomeness necessarily at first attendant upon it should have subsided. Besides this, it is advantageous to place the patient upon one of Earle's beds, where the limb is raised upon one inclined plane, the heel being the highest point, the trunk of the body upon another. By the former, the return of blood from the part is facilitated; by the latter, the pelvis being bent on the thigh, the chief muscles attached to the patella are placed in a more complete state of relaxation, and the motions consequent on the involuntary spasmodic action of these muscles, which sometimes occur after this operation, as in a stump after amputation, are lessened.

The patient not only slept on this bed and in the position referred to, but the operation was performed on it, to avoid all motion or displacement of parts which might ensue from his being transferred from one place to another.

The cartilage was brought to the inner side of the joint, and retained there by Mr. Tuson, the skin being previously drawn towards the patella. The external incision was made over its inner edge, and the different layers of skin, of cellular substance, and of fascia, successively divided. In doing this an artery was cut and tied, not on account of its size, but because the blood from it obscured the view of the parts, and interfered with the progress of the operation.

The capsule of the joint being opened in enlarging the aperture, another artery was divided, which gave out blood more freely than the first; but this was not tied, for the cartilage being seized with a tenaculum and extracted, the hæmorrhage was stopped by compression, care being taken that the blood did not pass

into the cavity of the joint. The pressure was continued until on withdrawing it, it was found that the vessel had ceased to bleed; and the ligature having been removed from the other artery, and this also no longer bleeding, the skin was allowed to resume its natural position, and the wound was brought together by strapping. The precaution was taken of applying a compress on the patellar side of it to prevent any blood if such subsequently escaped, from passing into the joint. (This accident may be attended with serious consequences.) I assisted at an operation in which the edges of the wound being immediately brought into contact from dread of the air gaining access to the joint, and before a vessel which had been cut ceased to throw out blood; this entered into the joint, filled, and distended it, and at the end of three days burst open the wound—was followed by inflammation, great constitutional disturbance, and death.

It has been recommended in the treatment of cases of this description, to apply ice to the parts after the operation, with the view of preventing the inflammation. My experience and observation have not led me to attach much value to this. I have great doubts of its advantages, and some suspicion that it occasionally acts prejudicially. In no case of inflamed joint, whether with or without a wound, have I found dry cold, or the application of ice in a bladder, of decided benefit; and in one instance, when it was employed immediately after the removal of a loose cartilage, upon the idea of preventing inflammation, this process supervened, and in a very severe form. I content myself with keeping the parts—the entire joint—constantly wet with cold water. To effect this, the strapping having been previously covered with a solution of sealing-wax in spirit, a bottle of water was slung to a cradle placed over the limb, and by means of a skein of cotton, one end of which was placed in the water, and the other on the piece of linen or lint, which encircled the knee, the fluid was kept constantly conveyed to the part, its quantity being easily regulated by the size of this syphon.

For some hours after the operation, the patient complained of starting in the limb, but this ceased in the evening, and did not recur.

On the seventh day the strapping was for the first time removed, and the wound found to be healing and granulating. The strapping was re-applied—the varnish and wet omitted. On the twenty-first, the parts having been healed for some days, the patient was permitted to get up, the joint being supported for a week by strips of soap-plaster. Since the removal of these, he has enjoyed the perfect use of it. The foreign body, in this case, was, as it is in most, of flattish form; convex on one side, concave on the other; on the convex surface as smooth and polished as the articulating cartilage of the femur; on the concave, grooved and rugged: it measured an inch and a half in one direction, and an inch in the other; in colour, consistence, and texture, exactly resembling cartilage.

In the preceding instance, as generally occurs, the substance was loose in the joint when its presence was ascertained and became the subject of operation; but that these productions are not invariably so, was witnessed in a woman who was very recently discharged from the hospital, and you have all seen.

Sarah Davis, æt. 26, servant, was admitted on account of swelling and stiffness of the left knee, which she was unable to bend but to a very limited extent, and which of late had been the seat of so much and constant pain as to prevent sleep. The swelling was soft, somewhat elastic, and depended chiefly upon effusion into the joint, although there seemed to be some also external to it. She states that about seven years ago she was suddenly seized, while going down stairs, with acute pain in the knee, so severe as to occasion syncope. This subsided, but has frequently recurred, and of late invariably on first using it in the morning. For some time she experienced relief from the use of a flannel bandage, so that after the morning's attack she was enabled to get about without much inconvenience during the day; but latterly she has suffered so constantly, notwithstanding the use of the bandages, occasional rest, repeated cupping, and a variety of local means, that she had been recommended and induced to seek relief in an hospital.

The symptoms in this instance were indicative of there being a loose cartilage in the joint; and as soon as the swelling had subsided, under rest and the local detraction of blood, the parts were examined with a view to its detection. Accordingly a large oblong substance was perceived between the inner condyle of the femur and the patella, under which it readily slipt. One if not two smaller bodies, of a similar kind, were felt below this. Attempts were made to secure and fix the large substance, by bandaging, &c. but without success, as she could not endure any pressure upon the parts. The risk of the operation was placed fairly before her, and as her limb in its actual condition was useless to her, she preferred submitting to it. The operation was performed with the precautions described in the preceding

case. No vessel of any size was divided, but on opening the joint, and dragging out the foreign body by means of the tenaculum, this was found not to be a loose cartilage, but a growth of irregular and lobulated appearance, and adherent by a pedicle. The substance was the size of a walnut, the greater part of white colour and fibrous character, not unlike those masses so often found in connexion with diseased ovaria; in others, some small lobulæ had the resemblance of fat, but not so in reality, for these did not soil paper, and were probably fibrin: even the firmest part of the mass could be broken down, and torn by the pressure of the fingers.

The pedicle (which was the size of the little finger) being divided, and no bleeding taking place, the edges of the wound were brought together, and this was treated in the manner already described in the case of Wm. Morgan. It healed equally favourably, but not with the same complete relief to the patient, for when she was allowed to get up and walk about, the swelling and pain returned, and this led to the discovery of another substance above the situation of the former one (those lower down were probably but lobulæ of the one removed), and projecting on the inner side of the quadriceps tendon, from under which it could not be brought. Evidently attached, and certainly less accessible, I hesitated about the performance of another operation; and on the notion that, from being attached, it might still be under the influence of the circulation, the effects of mercury, of iodine internally, and of various external applications were tried, but without producing any impression upon it. The patient having become hysterical, was sent out of the hospital for six weeks, and with the further purpose of ascertaining what time would do for her; but already, before the period has expired, I have had an application for her re-admission, for although her general health is re-established, she is said to suffer nearly as much as heretofore in the knee.

During the autumn several examples of penetrating wounds of the joints were admitted into the hospital, and terminated favourably; but one of them, only discharged since the commencement of the session, illustrated in a marked manner the bad effects of motion in cases of this kind, contrasted strongly with the preceding cases, and presented several points of interest in its history and progress.

James Neale, æt. 19, a blacksmith, came to the hospital as an out-patient, with a contused and lacerated wound an inch and a half long, on the inner border of the patella, having been struck on the part by a piece of a bar of iron a short time previously. The house-surgeon not supposing that the wound penetrated the joint, dressed it, and made him an out-patient. The man walked again to the hospital on the following day, complaining of pain and some heat in the part. Lotio plumbi was ordered to be applied over the strapping, which still adhered. This relieved the pain for a time, but during the night it became extremely severe, as was stated by his wife, who came to the hospital in the morning, and who added that a quantity of brown fluid had escaped from the wound. Warm fomentations, with lotio plumbi cum opio, were ordered, and these gave so much relief that the next day he came to the hospital, and now, for the first time, was brought under my observation. There was great and uniform swelling of the joint, heat of skin, and considerable external redness. The gaping wound exposed a quantity of tawny cellular substance, and from it a thin glutinous fluid escaped. The patient was placed in bed (one of Mr. Earle's), and the heel elevated; twenty leeches were immediately applied, and, the patient having been purged, three grains of calomel and a quarter of a grain of tartarized antimony were ordered every six hours. The swelling and inflammation ran very high, and extended to the neighbouring thigh, which became enlarged, with great constitutional disturbance. The synovial secretion became opaque and mixed with coagulable lymph. Large pieces of this occasionally blocked up the wound, obstructed the flow of synovia, causing aggravation of the symptoms, and requiring their removal. Ultimately the fluid discharged became puriform, or synovia mixed with pus. The leeches were repeated daily, and sometimes twice a day, for the first week, with warm fomentations, which were found to be most agreeable, and the mercury was pushed until the mouth became affected; and this action was maintained for several weeks. By these means the inflammation was checked; the swelling subsided; the discharge diminished, and re-assumed its transparent character; the wound granulated, and at the end of five weeks had completely cicatrized. The patient was then allowed to get up, first with a pasteboard splint behind the knee, but this was ultimately withdrawn, and he recovered the perfect use of the joint.

A week after the patient's admission, when the wound had somewhat cleaned and began to granulate, it presented the following appearance:—Its surface rose above the level of the adjoining skin, and was gradually distended by the eleventh day into a globular swelling, the size of a

small egg, in the most prominent part, slightly transparent. This had from time to time given way, but on opening it on the twelfth day, to allow of its complete subsidence, nearly a wine-glassful of opaque synovia at first, and then puriform fluid, was evacuated; this puncture it was necessary to repeat. This appearance, no doubt, depended on the wound of the synovial membrane healing before the other superimposed tissues; and being deprived of the resistance which these naturally afford, it became distended by the contained fluid. This condition of parts closely resemble those of the eye in a case now in the house, where there is what is frequently called hernia of the cornea, or of the membrane of the aqueous humour. I mean the case of ulceration of the cornea, which has perforated the anterior chamber; but where the ulcer is healing, the posterior layer of the cornea is still protruded in the form of a small transparent bag, above the general level of the cornea.

When the fluid had become distinctly puriform, the dread of ulceration of cartilage led to the application of several superficial issues over the joint, and these seemed to have a beneficial effect in diminishing the discharge, and contributing to the favourable termination of the case.

This is not the only instance in which I have known the function of the joint to be perfectly re-established, although the discharge had been puriform; yet it is undoubtedly one not of frequent occurrence.

ROYAL MEDICAL AND CHIRURGICAL SOCIEY.

February 26, 1839.

THE PRESIDENT IN THE CHAIR.

Statistical Account of Cholera in the Seamen's Hospital, 1832. By GEORGE BUDD, M.D., F.R.S. Physician to the Seamen's Hospital.

THE chief object of this paper is to shew the influence of age, and some other circumstances, on the mortality of cholera, and the liability to that disease. The author observes that there are many circumstances which render the Dreadnought peculiarly favourable to inquiries of this nature. The patients, who are admitted without any other restriction, are all sailors—persons similarly circumstanced, and leading the same kind of life. When, therefore, we investigate in them the influence of age on diseases, we find already eliminated the disturbing influences of sex, profession, and many other particulars, which render such an investigation extremely complicated in general hospitals. The registers of the Dreadnought are kept with the greatest care, and contain all the information that can be desired respecting the nation, the age, the quality of every patient admitted; the time he has been at sea, and the vessel in which he last sailed; and, by a recent regulation, the ages of the sailors who enter the port of London are registered at the Custom House. The author has obtained permission to examine these registers, and has thus been enabled to ascertain the proportional number of sailors of any age who enter the port of London, or the proportional number of the persons of a given age who are admissible into the Dreadnought. After narrating a few circumstances connected with the appearance of cholera in London in 1832, the author remarks, that on the 22d of May in that year, H.M.S. Dovor, which had been fitted up as a cholera hospital, was placed under the management of the Dreadnought committee, and stationed in the river, at Deptford; and that between this time and the 12th January, 1833, 160 cases were received there. He then proceeds to give, in different tables, some analysis of these cases. The first table shews the mortality in different periods of the epidemic. It appears that the mortality varied in a remarkable manner, becoming gradually less as the epidemic approached its termination. At first the number of deaths was double that of recoveries; towards the end of the epidemic — that is, after the month of September — it was only half their number. The second table exhibits the influence of age on the mortality. The mortality was least in persons between the ages of 15 and 30; and in these the number of deaths was double that of recoveries; it was greatest in persons above the age of 50; of twenty-two above this age only two recovered; the age of these two was 53. Of thirteen, whose ages exceeded 53, not one recovered. But advanced age is not only unfavourable to recovery in cholera, but gives a predisposition to the disease. This is shown in table 3, in which the numbers of cholera patients within certain limits of age are compared with the proportional numbers of sailors within the same limits of age. It appears, from this table, that persons between the ages of 20 and 30 are least liable to attacks of cholera; and that above 30, the liabilities to attack continually increase with age. By means of the tables 2 and 3, Dr. Budd calculates the relative risk of losing their life incurred by persons of different ages who are equally exposed to the causes of the disease, and finds that this risk is be-

tween seven and eight times greater for persons above the age of 50 than it is for persons between the ages of 15 and 30; hence he suggests the propriety of entrusting the charge of cholera patients to persons in the prime of life. The 4th table is intended to show the influence of previous health on mortality. The 5th table exhibits the manner in which the disease was diffused. The 160 cases came from 134 different vessels, and from each of 122 of these vessels one patient only was admitted.

In 1834, when cholera again appeared in London, the Echo was fitted up as a cholera hospital, and stationed, as the Dovor had been, at Deptford. Thirty-six cases of cholera were received in the Echo from the commencement of the epidemic, in the early part of August, to its termination in the middle of September. The analysis of these cases shows that the disease was less severe than in 1832. It agrees with the analysis in 1832, as shewing the great influence of age on the mortality in cholera and on the liability to that disease. In 1834 the disease was diffused in the same manner as in 1832. Almost all the cases came from different vessels.

Case of Aneurismal Tumor of the Orbit cured by Tying the common Carotid Artery. By George Busk, Surgeon to the Seamen's Hospital Ship, Dreadnought.

The patient was admitted into the hospital in consequence of severe concussion of the brain, resulting from a blow by the gaff on the right temple on the 13th July, 1835, having at the time considerable hæmorrhage from the right ear. Sensibility was very slowly recovered, and on the second day after the accident he was found to be quite deaf in the right ear. The lids of the left eye were swollen, and its pupil dilated and fixed, neither could the globe be moved in any direction. There was also slight paralysis of the facial muscles of the left side. Five days after his admission the pupil of that eye was observed to be elongated downwards, and the vision was slightly impaired. The only motion of the globe was an involuntary rotation on its axis. The paralysis continuing, the eye, after a while, became painful from the constant exposure of the orbicularis; and on the 31st the lower half of the cornea had become nebulous, and pus was apparent between its laminæ. On the 20th of November the patient was discharged, in consequence of small-pox, and returned nearly in the same condition as to his other symptoms on the 1st December. On the 1st of February, 1836, the author first discovered a pulsating tumor in the upper and inner part of the orbit, having a decidedly aneurismal thrill, and proceeded on the following day to tie the common carotid artery in the usual place and manner. The pulsation of the tumor—and that communicated to the globe, immediately ceased, together with all the sounds internal and external, but returned very perceptibly though obscurely, four hours afterwards. On the third day, however, no remains of the tumor could be felt, neither were any sounds audible by means of the stethescope. The case from this time went on very satisfactorily; the ligature separated on the sixteenth day, and on the 28th March the patient was discharged from the hospital quite well, with the exception of some remaining paralysis of the face, and continued so when the author saw him about a year ago. The paper concludes with a reference to some other similar cases, one of which, treated by Mr. Guthrie, was verified by dissection, and a postscript is appended to the paper, containing a case precisely parallel to that related by the author, which occurred as a consequence of concussion of the brain in the London Hospital in 1834. In this case Mr. Scott placed a ligature on the common carotid with like success.

On the Softening of Coagulated Fibrin. By Georg Gulliver, Assistant-Surgeon to the Royal Regiment of Horse Guards. Communicated by Sir J. Macgrigor, Bart.

The author, after remarking the interest attached to inquiries concerning the distinctive characters of various albuminous morbid products, and that the French pathologists have generalized to a great extent on the analogy between these substances and one of the proximate principles of the blood, expresses his opinion that this method of investigation has tended to retard the acquisition of a satisfactory knowledge of them, since, in the present state of pathological science, it is with their specific differences that we especially require to become acquainted; and as pus is the most important of these fluids, from its constituting such a frequent elementary product of disease, an inquiry into the peculiar properties of the various matters commonly comprised under this term appears to be particularly desirable: hence, in furtherance of this object, he proposes to shew that a fluid, which has generally been described as purulent, is, notwithstanding, nothing more than coagulated fibrin which has passed into the state of softening, so as to resemble pus in colour and consistency, but differing essentially from it when examined chemically, and by the aid of the microscope. Some experiments are then

detailed, in which clots of fibrin were submitted to a blood-heat for two or three days, in water, from the effects of which concoction the fibrin was reduced to a fluid matter so much resembling pus, as not to be distinguished from it except by examination as above mentioned, when the colour and consistency of the softened fibrin were found to be owing to innumerable particles, extremely irregular in form and size, instead of the characteristic globules of pus, from which the former also differed in their chemical properties.

Several cases are then related of clots of fibrin, more or less softened towards the centre, in the heart, aorta, and veins—such, in short, as have generally been described by authors as instances of suppuration, and accordingly cited as proofs of the transformation of these coagula into pus. From a careful examination, however, of the fluid in these cases, the author finds it destitute of the characters of pus, but possessing all those of softened fibrin; although he does not deny that, in certain states of the disease, pus globules may occasionally be found, just as they are frequently mixed with the matter of tubercle and cancer.

From the observations of Dr. Davy, as well as his own, the author regards the occlusion of the veins by sanguineous coagula, whether softened or not, as a much more frequent occurrence, and of much more importance in disease, than is generally supposed; and he is led to believe that the affection in question is generally in consequence of the excessive languor of the circulation and depression of the vital powers which take place during the last two days of existence in various chronic maladies; and he suggests that the softening of the centre of the clot may possibly be attributed to the circumstance of this point being most distant from the living tissues; for he remarks, that when the organic force is active, fibrin becomes organized or absorbed, or imprisoned for years, without undergoing much change, in the sac of an aneurism. In an incidental notice of a repetition of those experiments of M. Gendrin, which consist in confining blood in one of its vessels or in the cellular tissue, and then introducing a foreign body into the clot, the author remarks, in connexion with the cause to which the softening of the clot appears to be attributable, that he could never succeed, like M. Gendrin, in producing any thing like pus in its substance in healthy animals, although, in two instances in which their vitality had been much exhausted by the effect of previous operations, a fluid possessing all the characters of softened fibrin was found in the coagulum. The author deduces the following conclusions from his experiments and observations:—

1. That coagulated fibrin, when removed from the body, and subjected to a blood-heat, commences to soften in about forty hours, assuming the colour and consistency of pus, but easily distinguishable from it by microscopic and chemical examination.

2. That the purulent-like fluid found in fibrinous clots of the heart and arteries, and so frequently in the veins, is essentially distinct from pus, and analogous to, if not identical with, softened fibrin.

3. That the softening of coagulated fibrin is an elementary pathological condition of frequent occurrence, distinct from suppuration, and constituting a considerable proportion of the cases generally denominated suppurative phlebitis.

OFFICERS AND OTHER MEMBERS OF COUNCIL OF THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY, LONDON, FOR THE YEAR 1839-40, ELECTED AT THE ANNIVERSARY MEETING, MARCH 1, 1839.

President. — Sir Benjamin C. Brodie, Bart. F.R.S.

Vice-Presidents.—James Copland, M.D. F.R.S.; Cæsar H. Hawkins, Esq.; Wm. F. Chambers, M.D. K.C.H. F.R.S.; Edward Stanley, Esq. F.R.S.

Treasurers.—Samuel Merriman, M.D.; James M. Arnott, Esq.

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Librarians.—Robert Willis, M.D.; Saml. Solly, Esq. F.R.S.

Other Members of the Council.—Richard Bright, M.D. F.R.S.; John Clendinning, M.D.; G. F. D. Evans, M.D.; Richard Quain, Esq.; James F. Palmer, Esq.; William Money, Esq.; Robert Ferguson, M.D.; George Burrows, M.D.; Thomas Wormald, Esq.; John P. Peregrine, Esq.

WESTMINSTER MEDICAL SOCIETY.

February 23d, 1839.

MR. HALE THOMSON, President.

Efficacy of the Meconate of Morphia.—Discussion on the Sources, Morbid Effects, and Means of Preventing the Influence of Malaria, continued.

MR. RUTHERFORD ALCOCK being elected an ordinary member, a languid conversation succeeded on the therapeutical qualities of a new preparation of opium invented by Mr. Squire, the operative chemist, of Oxford Street. Mr. Hale Thomson stated that he had, of late, very often employed

Mr. Squire's tincture of the meconite of morphia, in the same doses as common laudanum, with the most decided benefit. Dr. A. T. Thomson, Mr. Guthrie, and others of his friends, had derived the same satisfaction from its use. In his (Mr. T.'s) opinion it was much more certain and effectual than Battley's sedative solution, and the price was only a fourth of Battley's. He had a patient at that time under his care, who, for the last four years, had taken at the rate of fifty pints of laudanum annually! This gentleman suffered from severe neuralgia, and he had had recourse to this narcotic on all occcasions, gradually increasing the dose to keep up its efficacy till he had arrived at the consumption of such an enormous quantity. Mr. Thomson gave the patient half-ounce doses of the tincture of the meconite of morphia, and found they had a much greater narcotic effect than four times the quantity of laudanum. He should not have introduced this tincture to the notice of the meeting if he had not been aware of Mr. Squire's determination immediately to publish his mode of preparing it. No man was more fully aware than he (Mr. T.) was of the inconvenience arising from the encouragement of nostrums.

Some conversation then ensued on the subject of opium, which occupied the meeting till the time arrived for renewing the discussion on MALARIA, when the Chairman called upon Dr. Johnson, as the mover of the adjournment, to open the debate.

Dr. Johnson began by stating that he felt embarrassed by the extent of the subject, and by the disadvantage of having to follow in a sort of competition the brilliant address of Dr. Addison. He should, nevertheless, trust to the indulgence of his audience in the few observations he was about to make. He would throw his remarks into three classes, as they related either to the sources of malaria; or to its influence on the human constitution; or to the means of preventing or curing its pernicious effects. He agreed with Dr. Addison that the essence of malaria was totally unknown. The speculations on this subject were examples of a puerile waste of time. There were two circumstances which were essentially necessary to the production of miasma or malaria—1st, Decaying organic matter, whether animal or vegetable; 2d, The existence of moisture. Whenever these two circumstances co-existed, there malaria was produced; but to render its influence highly deleterious to the human frame, two other circumstances were also necessary, viz., 1st, a high temperature; and 2d, stagnation or quiescence of the atmosphere. In the torrid zone the worst forms of malarious disease were exhibited; such as the jungle fever of India, the Bulam fever, and the yellow fever of the West Indies. These terrible diseases appeared in marshy situations, where the vertical rays of the sun acted upon the putrescent matter, and and promoted the solution of the generated malaria in the air, which was subsequently inhaled into the lungs, and absorbed into the system of the patient. The severity of these fevers he had always observed to be in a direct ratio with the range of the thermometer. Getting out of the tropics, we find the results of miasmatic poison illustrated in the bilious remittent fevers generated in the valleys and marshy plains of Spain, and on the continent of North America, and Italy and Hungary; in the epidemics of Sicily, of Gibraltar, and of Malta, where ill-ventilated dwellings and crowded populations tended to aggravate the form of the malady. He had known the thermometer higher at Gibraltar and Malta than in the West Indies, and it was always during the prevalence of very high temperatures that the most fatal epidemics had visited those localities.

In the British islands, owing to the frequent clouds and rains, and the low range of temperature, the highest forms of malarial disease were never seen. The most frequent morbid consequences of miasmatic poison, were intermittent fevers, but this disease was comparatively rare in this metropolis.

Dr. Addison had laid great stress on the fertile source of malarious exhalation affforded by the banks of the Thames. These were doubtless sources of unwholesomeness, but not to so great an extent as Dr. Addison had intimated. It was to be remembered, that the sides of the river were well swept four times in the twenty-four hours; not by the Thames police, but by the tides; twice by the flood tides, and twice by the ebb tides. In this locality, there was neither stagnant air generally, nor stagnant water, and no time was given for the impregnation of the superincumbent strata of atmosphere, by the constant perflation that was kept up chiefly through the advance and retreat of the tide. In this metropolis there existed, in his opinion, many more active sources of malaria than the river Thames. The Surrey bank of the river, extending from Battersea fields to Deptford, was, according to his experience, much more malarious than the opposite Middlesex bank. A great part of that side of the river was lower than high-water mark, and the ground was consequently never well drained. Typhus and bilious fever were more common in the Surrey suburbs than in Middlesex. The lowest parts of the town on the Middlesex side, such as Pim-

lico, Chelsea, and Westminster, were considerably above high-water mark, and he had ascertained that Buckingham Palace, which Dr. Addison had declared to be a fit site for the Inferno of Dante, was fourteen feet above the level of high-water mark. But if Buckingham Palace was so pestilently situated, he would ask Dr. Addison how he had happened to pitch his own tent right opposite to it, at Spring Gardens, between which neighbourhood and the Palace there only intervened a long sheet of water, over which the westerly winds, which prevailed during *nine* out of the twelve months, must blow the malarious vapour supposed to envelop the Palace over to Spring Gardens. He had not, however, heard that ague was at all common in Spring Gardens. The fact was, that the two aggravating circumstances of high temperature and a perfectly calm atmosphere, were generally wanting in that locality, and the malarious product was scanty in quantity, and speedily dispersed by the *flots de l'air*, throughout the general atmosphere. Some years ago, Dr. Macculloch imagined that the aquatic plants growing on the sides of the "Canal," in St. James's Park, was unwholesome. Owing to this theory, the canal was drained, the sides widened, and the obnoxious plants removed. But during this process the moist surface of the muddy bottom was of course exposed to the air. During this time, also, several cases of ague occurred in Spring Gardens, and he (Dr. J.) residing at Suffolk Place, and who had never been affected abroad with this disease, though often exposed to powerful causes, was attacked with an intermittent fever, which did not leave him entirely for eighteen months. At the same time, however, he had an obstructed sewer under his house, and he was disposed to think that the local malaria had an equal share in invaliding him, with the general miasma derived from the neighbouring "Canal." The greater activity of the miasma during the absence of the water was obviously owing to the quiescent state of the moist surface (there being no aqueous surface to ripple); for the motion of water was more efficient than even the motion of air in precluding the diffusion of miasma.

In Dr. Johnson's opinion there were many more copious sources of malaria than the littoral, or river side. These were stagnant pools, open drains, ditches, common sewers, privies. It needed no comment to shew the insalubrity of the stagnant ponds and ditches, filled with putrescent matter, to be found in the suburbs. The openings of the drains discoverable in all our streets, might be considered as so many chimneys, through which malarious vapour was constantly projected into the atmosphere. The substitution of water-closets for garden *places d'aisance*, though it contributed to comfort, he thought was a circumstance unfavourable to health. The best constructed of these water-closets threw out an offensive effluvium, which he had no doubt constituted a copious source of mischief. The neglected heaps of filth—the *débris* of animals as well as vegetables (but principally the latter)—which were constantly to be met with in our by-streets, lanes, and alleys, contributed greatly to vitiate the atmosphere. This was an evil which a little more vigilance on the part of the police might remedy.

The second head of his subject consisted of the effects of this malaria on the human frame. These were very various; but the most numerous and striking were ague, tic douloureux, and bilious headache. The form of ague thus commonly occurring was that designated the "*brow ague*," and was, in fact, a complete epitome of the intermittent fever. A feeling of coldness was first felt in the affected brow; this sensation was followed by an inflammatory blush extending over the part, attended with free lacrymation; and the paroxysm finally resolved itself in a gentle diaphoresis. The tic douloureux was unfortunately too familiar to need description. It could be satisfactorily proved to arise from the operation of miasma; and a removal of the patient into the country was often sufficient to subdue all the symptoms at once. The third form was the sick headache. This painful affection was attended by a peculiar indescribable expression of countenance; it returned periodically; it was marked by severe headaches, nausea, and sometimes vomiting. The periods were not very regular, but the intermissions were sufficiently remarkable. There were other maladies of a serious grade, which occurred in this town as a consequence of malarious exhalations; but these were very familiar to all medical readers, being well described in the standard medical works.

The third division of the subject comprehended the means of counteracting or preventing the operation of the miasmatic poison, and would be very brief. He had, in his practice, found that the most successful plan in these diseases was first to clear out carefully the alimentary canal, and afterwards to administer tonics in such forms as best suited the patient's peculiar habit of body. Quinine was the most efficient medicine generally in these cases.

Mr. Alcock said he had derived much instruction from the lucid statements of Dr. Johnson; he could not, however, fully concur with Dr. Johnson as to the neces-

sary presence of high temperature in all cases of severe fevers. Whilst he was attached to the liberal armies in Spain and Portugal, he had had opportunities of observing the influence of malaria upon large bodies of men. The severe fevers which scourged the peninsular armies during his period of service, occurred in cold weather. The severe fever at Vittoria, which carried away a thousand men of General De Lacy Evans's army, came on whilst snow was upon the ground, and the whole neighbourhood was a swamp. During the hot weather no fever appeared. It was the case also in Portugal whilst Saldanha's army sat before Santarem, a most severe fever attacked the troops during the prevalence of wet and cold.

Mr. Roderick would inquire whether Mr. Alcock had observed what was the state of the brain in those soldiers who died of the fevers he had described? Was the brain very pink (a colour arising from arterial injection), or was there merely a venous congestion?

Mr. Alcock had oftener seen lesions of the alimentary canal than of the cerebrum.

Dr. Reid had been in the same army, under Mr. Alcock: he recollected examining the brain of some of the patients. The inflammation was usually confined to the meninges of the brain. There was not unfrequently a softening of the substance of that organ. A remarkable circumstance attendant on this fever was the severity of the pain in the lower extremities, which often became inflamed and mortified. He had suffered an attack in his own person, and was much harassed by the affection of the feet.

Mr. Acraman thought that the sources of malaria should be arranged under *three* heads—viz. mineral, vegetable, and animal. Medical writers had been garrulous upon the last two heads, but the malarious influence of metals (such as lead, copper, &c.) had been too much overlooked. In large manufactories, well-marked disorders proceeded from the inhalation of this vitiated air. In pin manufactories, especially, the minute dust pervaded the air, and produced certain epidemic attacks, which, it was singular to know, were invariably subdued by copious libations of milk warm from the udder.

Mr. G. A. Walker thought a most important source of malaria had been overlooked; he meant the graveyards. These, in many parts of the town, were so crowded that not sufficient time was allowed for the complete decadence of the corpses. Many bodies were buried not more than eighteen inches below the earth's surface, and this was not a sufficient distance from the air to prevent fœtid exhalations. The soil of most graveyards in the metropolis was deeply impregnated with animal matter, and, when saturated with rain, threw out the most offensive effluvium. He had traced many cases of severe fever to exposure to this kind of malaria. He hoped the subject would occupy the attention of the profession and the public, and that means would be adopted to abate the nuisance.

Dr. A. T. Thomson had entered the society without being at all aware of the nature of the subject to be discussed, or of the fact that an animated debate had taken place on the subject on the previous Saturday. He did not, therefore, know what had been stated by antecedent speakers, but he had heard nothing that evening that threw any light on the nature of malaria or its *modus operandi*. He had paid some attention to the subject, and instituted some experiments; and he was pretty firmly convinced that, in the majority of instances, the cause of the malady was moisture, which, being deposited on the surface of the body, acted as a sedative, and provoked abnormal actions in the vital and natural organs. He was convinced that an immense quantity of free hydrogen was occasionally to be found diffused through the atmosphere. Wheresover a bank of fog arose, there disengaged hydrogen was present; and this was made obvious where any putrid animal matter was near, for the odour of ammonia was made much more manifest in fog than in the absence of it. This was due to the extricated nitrogen finding abundant hydrogen with which to combine and form ammonia. He had made some experiments to shew that hydrogen was noxious to the animal frame. He had included dogs in bags filled with hydrogen, intermixed with a little sulphuretted hydrogen (a mixture very generally prevalent in fogs), and in all the instances the animals speedily died.

The varying morbific effects of moisture he was sure had not been sufficiently attended to by pathological inquirers; for their investigation, he had no doubt, would shew the gigantic power of moisture as a cause of disease. There was no question in his mind but that electricity, being suspended in fields of fog, decomposed the aqueos vapour, and emancipated the hydrogen, which, having no gas to combine with, was ready to be absorbed into the living system. It was a singular fact that sailors, though constantly splashed and wetted to the skin by sea water, had not their health affected in consequence; but if a succession of showers kept the deck moist, rheumatism and other maladies speedily shewed themselves. He had thrown together these observations crudely—

he had not primed himself by any preparatory meditation or research, his object being to elicit information from others, and he trusted to the indulgence of the society.

Mr. Winslow was of opinion, that miasma must be as various in its properties as the kinds of vegetable from the decomposition of which it emanated.

Dr. Chowne now pleaded for an extension of the sitting of the society for the evening.

Dr. A. T. Thompson argued that it would be better to adjourn the discussion till another evening. He should like to prepare himself for another discussion, and be enabled to communicate as well as receive some information. This proposal prevailed, and the meeting was adjourned on the motion of Dr. Thomson.

IDIOS.

A SECOND CASE

OF

ENLARGEMENT OF THE THYMUS GLAND,

TERMINATING FATALLY,

In a Child Twenty-nine Hours old.

BY WM. C. ROBARTS, M.D. of New York.

IN the number of the American Journal for August 1837, I recorded a case of congenital enlargement of the thymus gland, which proved fatal to a child of eight months, and was attended with some unusual symptoms. Another case of the same kind having fallen under my observation, I beg leave to communicate the particulars of it to the profession.

Mrs. W. was delivered, at 11 A.M. on the 17th July, of a healthy male infant, which cried strongly at birth. In the afternoon it took the breast, meconium and urine were passed, and the child seemed to be doing well. At 3 P.M. (as I have been since informed) it became restless, and the father thinks looked livid about the face. After the administration of some catnip tea, it was put to sleep. On visiting the mother at 10½ A.M. on the following day, the child was shown to me. Its looks was placid and bright; its skin not hot, but the manner of its respiration instantly attracted my attention. The breathing was inexpressibly rapid and panting, effected strongly both by the chest, diaphragm, and abdominal muscles. The heart beat with the greatest force and frequency, and violent pulsation was felt in the chest and abdomen. There was no cough, and no subcrepitant rattle, and I neglected to feel for the elevation of the brain at the fontanelle. The pulse, from its frequency, could not be counted. I suspected at the time that it laboured under either pneumonia or an enlarged thymus gland; but as it seemed in no suffering, I postponed any treatment until I could visit it again shortly. This I was prevented from doing, and about 4 P.M. I was informed of its death. It had cried unceasingly from the time I left it, but had died tranquilly.

At the autopsy, five hours after death, Drs. R. K. Hoffman, John Watson, and J. B. Kissam assisted. On turning up the sternum, the thymus, reaching to the scrobiculus cordis, and passing laterally deep into each side of the chest, but not lying upon the lungs, and covering the largest portion of the heart, came into view. It was of a pale red colour, and in form closely resembled that of which a drawing was given in the No. of the journal for August 1837. The heart and lungs were in all respects in a healthy condition.

The gland, very soon after its removal from the body, weighed six drachms two scruples and two grains, or 402 grains; was 2½ inches long, and three inches across, and half an inch in its thickest part. Its inside surface was concave and smooth. The head and abdomen were not opened.

It appears, from this statement, that this infant lived for thirteen hours from the time when it first appeared to be unwell—that its symptoms resembled those of the child who was the subject of my first observations, whilst they differ from those of any case of enlarged thymus gland recorded previously to that time. I am informed that, during the interval which has elapsed between the occurrence of the two cases, a similar condition of the gland was met with by a physician of this city.

The sudden invasion of extraordinarily rapid respiration, and extensive and forcible pulsation of the heart and great vessels, together with dulness of sound on percussion over the anterior portions of the chest, in a child previously healthy, ought certainly to lead us to suspect the existence of tumefaction in the congenitally enlarged thymus gland.

In the March No. of the *Encyclographie des Sc Méd.* is a paper by Dr. Gräf, in refutation of a dictum of Professor Albers, who, in his observations on the domain of Pathology and Pathological Anatomy, Bonn 1836, asserts, "The proximate cause of the symptoms which denote the existence of thymic asthma can in nowise arise from the thymus." This sentiment, I presume, will find but few supporters, and it is unnecessary to cite the grounds of Dr. Gräf's dissent from it; but the passage in which it is contained is curious, as shewing that Prof. Albers has indicated by reasoning, anatomical and philosophical, the probable occurrence of the very train of symptoms, which, in my two cases, have been so marked and peculiar.

He proceeds:—"Its anatomical position does not allow of its producing constant pressure upon the air-passages, nor even of its irritating them considerably. The chief injury which it inflicts is upon the heart and great vessels. Its lower portion rests upon the pericardium, just where lie the auricle and a portion of the right ventricle, and also the large vascular trunk of the heart. Admitting that the symptoms *are* caused by the pressure and irritation which the thymus creates in the neighbouring parts, it is the circulation, rather than the respiration, which is to be interfered with; the symptoms, consequently, should refer to the functions of the first, rather than to those of the second, and the chief will be disorder in the functions of the vascular system. In a word, the phenomena resulting from the augmentation of the thymus will depend more on compression than upon irritation. The very contrary is true with regard to the symptoms of thymic asthma."

The professor would, no doubt, readily allow the cases I have recorded to result from the thymus gland, and receive them as proofs of the truth of his statement. I do not doubt that the thymic asthma hitherto described depends on the condition of that organ; but it is evident that there is a second form of disease resulting from it, which Dr. Albers first predicted, which I first observed, and which will, I think, be found to be of frequent occurrence.

Dr. Gräf, in arguing on the causes of thymic asthma, while he admits the manner in which the gland covers the lungs and heart, contends that the tumefaction "is particularly observable in the two cornua, which closely embrace (*serrent étroitement*) the larynx and trachea, and also in the thickest portion, which lies directly beneath the manubrium sterni, and immediately on the trachea;" and he says, "it is probable that this *very great* pressure injures seriously (*fortement*) the nervi vagi and inferior laryngeals."—*American Journal of the Medical Sciences.*

DR. ELLIOTSON AND HIS LATE PUPILS.

Dr. Elliotson, some days ago, sent a letter to one of his late pupils, which he wished to be read to the gentlemen who formed his class at University College. Notwithstanding his friendly feeling towards his preceptor, the gentleman alluded to declined to comply with Dr. Elliotson's request, in consequence, we understand, of the manner in which the Professor's late colleagues are spoken of in the epistle; which we may add, by the way, extends through *thirty-five* closely-written pages! It is quite clear that it would have been very indecorous to have read such a letter as the one in question is represented to be, and it has accordingly been returned to the author; by whom, we understand, it is to be published forthwith. Our informant adds, that the Doctor purposes to restore to them a part of the fees paid by the pupils, and that some of them propose, in return, to give their late master a piece of plate. As the course is continued by a teacher of at least equal eminence with the late Professor, the former proceeding is uncalled for; and considering the circumstances under which Dr. Elliotson left the College, the latter would, to say the least of it, be extremely injudicious.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, March 7.

Hugh Meller, Sheffield.—D. Dugdale, Blackburn.—Chas. Braddon, Crediton.—Sprott Boyd, Edinburgh.—Thomas Benjamin Appleton.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Mar.* 5, 1839.

Abscess	1	Heart, diseased	2
Age and Debility	36	Hooping Cough	2
Apoplexy	8	Inflammation	17
Asthma	9	Bowels	5
Childbirth	6	Brain	1
Consumption	37	Lungs and Pleura	4
Convulsions	23	Insanity	2
Croup	2	Measles	6
Dentition	4	Paralysis	2
Diarrhœa	2	Small-pox	5
Dropsy	9	Sore Throat and Quinsey	1
Dropsy in the Brain	2	Thrush	3
Epilepsy	1	Tumor	1
Erysipelas	2	Unknown Causes	141
Fever	7		
Fever, Scarlet	8	Casualties	8
Fever, Typhus	4		

Increase of Burials, as compared with the preceding week . . . 53

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

	Thermometer.		Barometer.	
February.				
Thursday . 28	from 30	to 49	30·06	to 30·08
March.	36	48		
Friday . . 1			29·93	29·79
Saturday . 2	37	53	29·77	29·91
Sunday . . 3	38	51	29·98	30·00
Monday . . 4	30	43	29·98	30·01
Tuesday . . 5	31	40	30·02	29·95
Wednesday 6	28	34	29·81	29·58

Winds, S. and N.E.

Except the 28th ult. and morning of the 3d inst. generally cloudy; rain on the 2d, and snowing frequently during the afternoon of the 6th.

Rain fallen, ·025 of an inch.

Charles Henry Adams.

Erratum.—In Mr. Laycock's remarks on sarsaparilla, in our last number, that substance is called "zarsa" throughout, instead of "sarza."

Wilson & Son, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, MARCH 16, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

Diuresis Chylosa.

The uresis in this affection is peculiar, though very much varied in its properties. The peculiarity consists in the urine containing chyle; and the conditions of this, and the altered constitutions of the urine, will give rise to various modifications of peculiarity. The leading character, however, it must be recollected, is the existence of chyle, or some modification of this principle, in the urine.

Generally speaking, there is nothing in this affection which leads the patient to the slightest suspicion of the nature of his disease. In some cases the quantity of chylous matter is so abundant, that the urine undergoes spontaneous coagulation; in others, it is merely opalescent, or as if it were milky; and when the chyle is still more diluted, the urine is pale-coloured, and of rather low specific gravity. In all cases on the temperature being raised, it becomes opaque, and deposits albuminous flakes. Urine of this sort, too, speedily undergoes decomposition, and more especially that which has been passed at a certain time after a principal meal, when the urine is more strongly impregnated with chyle, and then these characters predominate in a much greater degree. In some instances of this sort, what has been voided throws up on its surface a sort of oily or creamy matter, after it has been left at rest for some time.

Here you see a specimen of such urine. You see it is opalescent, notwithstanding the precipitate. It has stood for some time, and you see the oily-looking appearance of the upper portion. Its specific gravity varies but little from that of healthy urine—from 1·010 to 1·017; this is about 1·012. When heated, it coagulates, as you observe; and the ferrocyanide of potassium dropped into the urine, slightly acidulated with acetic acid, throws down an albuminous precipitate, as you observe. Urine of this description undergoes speedy decomposition. Thus, the specimen which I here shew you, although two days since it faintly reddened litmus paper, now turns turmeric reddish brown, as you see. This mostly depends upon the evolution of carbonate of ammonia; and, indeed, the odour becomes somewhat ammoniacal.

With respect to constitutional symptoms, occasionally it will be found that a chylous state of the urine may prevail for a considerable time without the patient being aware of the circumstance, or, indeed, without any very obvious derangement of the health. When, however, the quantity of chyle is such as to give rise to spontaneous coagulation, as noticed by Dr. Prout, more serious alterations force themselves upon the attention. In many instances there is no increase of the urinary discharge; but generally there is a decided and unequivocal diuresis. The patient does not constantly complain of pain, but he complains of certain uneasy sensations, especially about the loins, which are very often mistaken for lumbago, and which probably they greatly resemble. In severe cases, in which there is an increased flow of urine, and the drainage from the system considerable, as we might naturally expect, there is an inordinate appetite, with considerable thirst, and many other symp-

toms resembling diabetes. Extreme cases of this description are somewhat rare. Dr. Prout, however, describes a very interesting case of this description. The patient was a married woman, about thirty years of age. She had an inordinate appetite, thirst, and other symptoms resembling diabetes; but her general health was, however, but little affected, her principal inconvenience being a difficulty in passing water, in consequence of coagula which formed in the bladder, stopping up the urethra. Three specimens of the urine—one voided in the morning, another a little after breakfast, and the third in the evening—presented the following characters:—

The first was a solid, jelly-like mass, of a pale amber colour, very delicate texture, and, on gentle pressure, or on being allowed to drain, a large proportion of an ambery serous fluid separated. The solid part became greatly reduced in bulk, assuming the appearance of a red fleshy-like mass of a fibrous texture, and which, when examined, presented all the characters of the fibrin of the blood mixed with a few of the red particles. The specific gravity of the serous portion was 1·019; smell faintly urinous; did not affect litmus or turmeric paper; and, although it contained a large proportion of albuminous matter coagulable by heat, it afforded distinct traces of the presence of urea.

The second, though it closely resembled the first, differed in some particulars; the serum was more wheyish, the fibrous coagulum more compact and firm, and held entangled in its texture a large proportion of the red particles of the blood. Specific gravity of the serous portion only 1·0124: it contained a considerable proportion of albuminous matter, though it did not coagulate by heat; it also contained a sensible portion of urea.

The third, voided in the evening, after an early dinner taken about noon, Dr. Prout states so closely resembled chyle, that he doubts, if it had been presented as such, if he should have detected the imposition. It consisted of a solid coagulum of a white colour, and assuming the shape of the vessel, like blanc-mange. Suffered to drain under a gentle pressure, the solid residue, as in the other instances, was small, but whiter than in the former specimens. It was intermixed with strings of a finer consistence, and of a red colour. The serous portion opaque and white, like milk; and on being heated, and permitted to stand at rest for some time, threw up upon its surface a substance like cream, and which was found to contain a considerable portion of a butyraceous principle. Specific gravity 1·0175; odour not urinous till reduced by evaporation, when it became so in a slight degree, and yielded faint, though distinct, traces of urea. It was not coagulable by heat, though it contained abundance of albuminous matter, chiefly, however, in that state in which it exists in the chyle, and which Dr. Prout has named *incipient* albumen*. One hundred grains of the serous fluid evaporated to dryness left about seven grains, half a grain only of which was soluble in alcohol, and consisted of urea, a little fatty matter, and other principles commonly found in all animal fluids, while the remaining six grains and a half consisted chiefly of the imperfect albuminous and fatty principles already mentioned, with some salts. It burned with a flame, yielded an odour something like that of cheese, and left a coal difficult of incineration, but which, when burnt, was found to contain a considerable proportion of earthy salts, chiefly phosphate of lime.

In another instance, mentioned by Dr. Prout, the patient was a man of about 64 years of age, subject to dyspepsia and bilious obstruction, a martyr to gout, with numerous lithic concretions, both in his hands and feet. The urine, first examined under a paroxysm of gout, before any œdematous swelling had taken place, was found albuminous in a considerable degree. Specific gravity 1·0141. It became turbid at 120°, and as the temperature was increased, formed heavy flakes; contained little saline matter, and presented only slight traces of urea and lithic acid. After being some days in the bottle, it acquired the smell of sour whey, and very strongly reddened litmus from the development of acetic acid. The animal matter differed from albumen, and approached in its properties to *curd*, though evidently distinct from either, and presented all the characters of the imperfect albuminous matter found in chyle. This state of urine was found to remain for several years, during which the quantity was always abundant; the specific gravity ranging between 1·0041 and 1·0076†.

In the well-marked forms of this affection the urine very closely resembles chyle in all respects, so much so as to be with difficulty distinguished from it; and it occasionally passes on the one hand into blood, on the other into lithate of ammonia. The chylous condition of the urine is more marked two or three hours after a meal, while in the morning it is nearly absent. The specific gravity of this urine is not high, but little exceeds, and sometimes does not even equal, that of health; and therefore, unless the quantity of urine be inordinate, the drafts upon the system

* Annals of Philosophy, xiii. 20.
† On the Urinary Organs, pp. 40-46.

are not excessive, which will account for the small amount of constitutional disturbance in this affection, and its protracted duration.

Causes.—Dr. Prout, from nine cases which he had an opportunity of investigating, deduces the following causes:—

The disease occurs in either sex, both before and after puberty. Of the nine, four were males; five, females: two occurred before puberty, one in each sex. In the majority of the cases, that is, in five out of nine, the patients either were natives of hot climates, or had been for many years resident in such climates.

The general health does not suffer much; indeed, much less than might have been expected. Emaciation prevails to an extent more or less, with a sense of uneasiness; a sense of weight or pain, as it were, in the region of the kidneys; but these symptoms are not invariably present. The disease does not interfere with the pregnant state, nor with the secretion or qualities of the milk, and may continue for years without materially affecting the constitution. The appetite, it has been already observed, is good, sometimes inordinate.

An inflammatory diathesis of the system prevails during the continuance of the disease, or else arises during its progress, and this is not only benefited by, but frequently requires, blood-letting. Of the cases mentioned by Dr. Prout, two died of abdominal inflammations; one during the disease, the other some time after it had subsided; and it is a singular circumstance, that during *acute* inflammation and fever, and also the prevalence of ptyalism from mercury, the chylous characters of the urine usually disappear, but reappear frequently in an aggravated form, when these have subsided*. Such is a summary of the views entertained by Dr. Prout. Among the remote or exciting causes may be ranked—impaired digestion, especially in free livers; and a scrofulous diathesis; injudicious mercurial courses, if long persevered in; stimulating diuretics, violent emotions of the mind, exposure to cold, and a crude and indigestible diet, &c. The immediate cause may be considered a *chylous* condition of the blood.

Morbid anatomy.—Dissection has thrown but little light upon this subject. Dr. Prout, in the lectures above mentioned, exhibited a kidney which shewed no marks of organic alteration; and, indeed, in the only instance which has occurred to me of examining the kidneys in such circumstances, there were no signs of disease, unless, indeed, a slight enlargement of the right, but which, however, was questioned, or considered doubtful, by persons perfectly competent to decide the question. The chylopoietic viscera, and those of the thorax, seem most likely to be the immediate seat of the disease; but we have at present no facts whereon to connect this disease with any peculiarity of morbid condition in any of the tissues.

Pathology.—There can be little doubt that the chylous condition of the urine in these cases is derived from a similar state of the blood; but what are the causes of the chylous state of the blood is not so easily determined. You know that the food received into the stomach is there converted into a greyish pultaceous mass, named chyme, which, after passing into the duodenum, and mixing with the bile and pancreatic juice, is converted, in man, into a whitish milky-looking fluid, named chyle. The chyle taken up by the lacteals, so abundantly spread out upon the mucous lining of the intestines, is by them carried into the receptaculum chyli, the commencement of the thoracic duct. This last conveys the chyle and empties itself into the subclavian vein, in the angle formed by the junction of the internal jugular with the subclavian. Here, mixed with the returning blood, it passes through the vena innominata into the superior cava, by which it is conveyed to the right auricle of the heart; thence it is sent into the ventricle, by which it is propelled through the minutest ramifications of the pulmonary artery, to be subjected to the purifying influence of the atmosphere received into the lungs during inspiration. In whatever state the chyle enters the lungs, both it and the venous blood is converted into florid arterial blood, and so returned by the pulmonary veins to the left side of the heart. Now whether the chyle sent into the lungs is not completely elaborated in these organs, and so returned in an impure state to the left side of the heart, and circulated through the different organs, no means of deciding have yet been instituted. However, such an occurrence might originate in several ways: either the intestines might, through some defect in the digestive powers, prepare an unhealthy chyle, and incapable of undergoing the requisite conversion in the lungs, or these organs might be incapable of effecting the requisite change in the chyle, so as to convert it into pure blood. Dr. Prout, in the Gulstonian Lectures before alluded to, says there can be little doubt that both the kidneys and assimilating organs are involved in this affection. The chyle, he says, from some derangement in the processes of assimilation, is not raised to the blood standard, and, consequently, being unfit for the future purposes of the economy, is, agreeably to a law of the eco-

* Gulstonian Lectures, &c.

nomy, ejected through the kidneys; but these organs, instead of dismer organizing it as usual—that is to say, instead of converting it into the lithate of ammonia—permit it to pass unchanged. That this is a just view of the matter cannot, he says, I think, be doubted; for if the chyle was properly converted into blood, this fluid and not chyle ought to be thrown off by the kidneys. On the other hand, he continues, it may be stated as an argument in favour of the notion that the kidneys are affected, that I have often found chyle in the blood when the urine was entirely free from albuminous matters; shewing that in the healthy state of those organs, even though chyle does get into the sanguiferous system, it is not necessarily ejected; or, if it is, that it undergoes the usual changes in passing through the kidneys. Whatever the state of the kidneys, there is no obvious organic disease.

We know but little of the means by which chyle is converted into blood. Both lymph and chyle contain albumen and fibrin in solution, but in less proportion than in the blood. The chyme contains albumen, but no coagulable fibrin, which appears to be formed in the absorbents, from whence it is poured into the blood. One hundred parts of chyle, according to Tiedemann and Gmelin, contain from 0·17 to 1·75 parts of dry chyle. Chyle, also, is not so distinctly alkaline as the blood; and there appears also to be a quantity of uncombined fat in the chyle, but which becomes more intimately combined in the blood.

It is believed by Autenrieth that the chyle is converted into blood in about ten or twelve hours after being poured into the circulating mass—an opinion which he formed because, within this time, the serum is often found milky. But some facts render it probable that the change is not quite so rapid; for when the coagulation of the blood has been retarded by the action of carbonate of potass, on the subsidence of the red particles, the supernatant fluid is often found somewhat turbid and milky.

The above, perhaps, is a summary of what is known in relation to the conversion of chyle into blood; and, in truth, we know nothing of the means by which this conversion is effected. It is probable, however, in the disease under consideration, that the assimilative powers are defective, and that a chyle which will not readily undergo sanguification is formed, and thrown off by the kidneys, as stated by Dr. Prout. Chyle, in consequence of the fibrin which it contains, coagulates spontaneously, and a serum separates which contains albumen. The milkiness of chyle appears to depend upon an oil or fat, which may be separated by ether. Chyle coagulates in about ten minutes after it has been removed from the thoracic duct. Sometimes the oily or fatty matter of the chyle is extremely abundant, and then may pass off either with the urine or from the bowels. Indeed I once saw a case of this sort, in which a stool was passed which so closely resembled oil or liquid tallow, that it would have been readily taken for such; and in less than a quarter of an hour after being passed, it coagulated, and assumed exactly the appearance of tallow or fat. No doubt many of the lienteries met with are nothing but a crude and imperfect chyle, passing off by the bowels instead of entering the circulation through the lacteals.

Diagnosis. — The only affection with which this can be confounded by any competent individual, is a serous or albuminous condition of the urine. A temperature of about 120° or 160° of Fah. will generally induce coagulation, or at all events a turbidness, and which, if not removed by a drop or two of hydrochloric or nitric acid, may be certainly pronounced to arise from chyle or serum. A turbidness may arise from heat, which would expel carbonic acid in excess, and holding carbonate of lime in solution; but which separates in the neutral state on the elevated temperature expelling the solvent carbonic acid. But a drop or two of nitric acid restores the transparency by redissolving the lime and expelling the carbonic acid; whereas it would assist in inducing turbidity, if it depended upon coagulable matter. Whether the urine really contains coagulable matter may be very speedily determined by adding a few drops of acetic acid, and afterwards some of a solution of ferrocyanide of potassium, when the coagulable matter, if in very minute quantity, renders the urine opaque or milky, but if in greater quantity a coagulum precipitates. We have already stated the principal properties which distinguish fibrin from albumen.

Chyle, for the most part, contains oily matter; and, therefore, if this be separated by ether, and the etherial solution evaporated, we shall be able to distinguish the oily residue by a variety of characters too well known to require any further elucidation here.

Prognosis.—The prognosis in these cases can hardly be considered bad, as many have continued to labour under this affection for years without any bad consequence, and sometimes even without any serious interruption to a general good state of health. Dr. Prout states, that the tendency is to be considered as rather of a *passive* character, and that it may exist for

a long time without materially affecting the health, or without interfering with the important function of generation.

Treatment.—It has been already stated, that an inflammatory or febrile state of the system prevails during the continuance of this disease; or if not present from the first, it generally arises during the progress of the complaint. Therefore blood-letting presents itself to our notice as an appropriate means, and, indeed, has generally been found beneficial. The quantity and the necessity for repetition are to be judged of by the rules and principles laid down at the commencement of the lectures, and which, of course, need not now be repeated. All those things which have a stimulating influence, or which are powerfully diuretic, do harm, and therefore should be avoided. Mercury seems to be wholly inadmissible, and even in alterative doses seems to do no good, and frequently does harm; indeed it seems, in some instances, to be capable of inducing the disease. Tonics, too (especially of the heating or exciting class), do not agree, and mostly do harm, by increasing the fever and the inflammatory tendency; and Dr. Prout informs us that he has seen the affection much aggravated by their use. Alkalies, too, by their action on the kidneys, seem to be any thing but well suited to this disease, and it is necessary to bear these facts in mind, because we often effect as much by avoiding what is injurious, as by exhibiting that which is innocent or even salutary.

All the means of counteracting fever and inflammatory action are necessary here. We have already mentioned a principal one—venesection. Nauseating doses of emetics (especially tartar emetic and ipecacuanha) prove beneficial, not only by the influence which they exert upon the circulation in general, but by their action upon the skin. Having prepared the system, we are next to look at the state of the functions, particularly those which seem to exert the greatest influence in producing the morbid condition of the urine: these are more especially digestion and sanguification. Many years since, I endeavoured to shew, or at least to infer, the influence which digestion exerted upon the nature and properties of the blood, and of the impurities of this latter upon the organic tissues, and in producing organic diseases of the viscera *. The view therein enforced have been since more generally adopted, and more perfectly illustrated by an examination of the morbid conditions of the blood, by Magendie and other pathologists.

* See Appendix to the Chemical Report upon Dropsies, and the Theory and Treatment of Organic Diseases in general.

We have already seen that the digestive and assimilative functions, especially in this affection, are materially affected; and consequently any derangements of this kind will require immediate and attentive consideration. The means of promoting a healthy action of the chylopoietic viscera, naturally present themselves as of primary importance in the treatment. Mercury and tonics, however, which are so generally indicated in the other forms of indigestion, seem, for the reasons stated above, to be wholly inadmissible in the circumstances under consideration. A free and regular action of the bowels, however, seems an indispensable measure in the treatment. Indeed we can hardly expect the formation of healthy chyle, especially under circumstances of so great a tendency to a depraved condition of this principle, if fæculent matter be allowed to accumulate in the bowels, and derange their action. Therefore the regular expulsion of the fæces must be provided for, and at the same time by such means as will not over-excite the urinary system, and thus destroy the good which they otherwise would have effected. Purgatives which stimulate the kidneys, therefore, are contra-indicated, and those which exert no agency of this description ought to be selected. The resinous purgatives, probably, are as well adapted as any to our purpose, and the various purgative extracts and pill masses of the Pharmacopœia—as of colocynth, camboge, &c. present us with the means probably best suited to our purpose. But these sometimes will not act unless in such quantities as prove injurious by the irritation which, in such large doses, they excite. The feverish and inflammatory state of the system is best controlled by salines, but they are not generally best suited, on account of their action upon the kidneys. The salines, however, formed with a mineral acid—the sulphuric or phosphoric, for instance—have less effect of this sort than those formed with organic or destructible acids. Infusion of senna with sulphate of magnesia will assist the purgative action of the pills, and does not appear materially to affect the kidneys. Phosphate of soda also acts effectually and mildly, and is less disagreeable than most others of the saline purgatives. The taste, too, is scarcely to be distinguished from common kitchen salt, and may be substituted for it in beef-tea or broth. Phosphate of soda, however, is a basic salt, and therefore has a slightly alkaline and consequently disagreeable taste. But this inconvenience is very easily remedied by the addition of a small quantity of any acid, as the hydrochloric or the phosphoric acid itself. These means will keep up a regular action of the bowels.

The liver, too, is frequently torpid, and the bile is not secreted in proper quantity, or probably is vitiated. Mercury—the usual panacea in such circumstances—is not admissible here. But independently of deranged hepatic functions—that is a deficient and vitiated state of the bile, for it is seldom redundant—there is a congested state of the liver, and especially in the ramifications of the portal vein, and hence the value of mercury, if not otherwise contra-indicated. The usual mode of relieving congestion is local blood-letting. Hence leeches and cupping-glasses naturally present themselves as indispensable means, and their repetition must be determined by the effect and the urgency of the remaining symptoms. After the first abstraction of blood I have seen great benefit derived from the mere application of the cupping-glasses without the scarificator, and we shall often be able to induce a patient to submit to this when he will absolutely and positively refuse to submit to any further scarification or abstraction of blood.

WESTMINSTER HOSPITAL.

Clinical Lecture, by Jno. Burne, M.D.

Adynamic Fever.—Apoplectic Cerebral Congestion. — Delirium Tremens. — Subacute Bronchitis.—Pericarditis.—Phlegmasia Dolens; its Pathology and Treatment.

The case of Mary Wiggins, which will form the subject of to-day's lecture, was of a very complicated nature. It comprised all the affections I have just enumerated; the last of which, the phlegmasia dolens, has enabled us to perfect the pathology of that disease, and to improve its treatment.

Case XXIX.—Mary Wiggins, 19 years of age, admitted on the 30th of October, 1838, had been out of health for the last four years, suffering much from bilious sick head-ache, vertigo, indigestion, irregular menstruation, and a very confined state of bowels, passing generally a week without an evacuation, which then was procured only by the aid of medicine.

For five days previous to her admission into the hospital she was affected with violent headache, sickness, and vomiting; and on the day previous she was seized with delirium, difficulty of speech, and a great change in the expression of her countenance. Before the present attack she was very intelligent, but now she was half stupid—half idiotic; the eyes were prominent, and staring vacantly, particularly the left, the ball of which was more exposed than the right; the left side of the face was also relaxed, and without feature, the mouth being drawn to the right, as also the nose, evidently from a slight paralysis. If spoken to, she grew alarmed and agitated, paused, as if at a loss for an answer; then replied with difficulty, and incorrectly. Being left to herself, she was delirious; but, roused, was for the moment sensible: there was subsultus tendinum, and great muscular tremor. She had a rather hard, frequent cough; short and difficult respiration—40 in the minute; the impulse of the heart anormally strong; the pulse 150—the stroke distinct, short, and transient; the skin dry, and pungently hot; the tongue very foul, and rather dry; the bowels constipated. She lay prostrate upon the back; her general aspect was anemious; her frame of body small, slight, and delicate; the respiration over the whole of the thorax bronchial, with sonorous and rather humid valvular wheeze; no crepitation.

The history of this patient, prior to the present attack, was very important, especially as connected with the cerebral symptoms. She had been subject for four years to violent headache and vertigo, and on the day before she was received into the hospital she lost, in a great measure, her faculties of speech and memory, and the use of the left side of the face; indeed, she barely escaped an apoplectic seizure. The condition of the brain, then, must be regarded as one of congestion; besides which, there was cerebral excitement, as indicated by the delirium, tremor, and agitation, exactly of the character met with in delirium tremens; and, had this girl, instead of 19 years of age, been 30, and of intemperate habits, we should have regarded her case as an unequivocal example of that disease; and such, indeed, must we now consider this part of it; for all the symptoms were present, only they were not produced by the usual cause—intemperance.

The congestion of the brain was unquestionably the gradual result of the habitual constipation—the ordinary cause of what is termed bilious sick headache; and the greater congestion in the present attack, by which the functions of the brain were impaired, was probably caused by the violent sickness and vomiting during the first four days of indisposition.

Of the state of the heart I can only conjecture. The stronger impulse as felt in the cardiac region, the rapidity of the pulse—150 in the minute, together with the short distinct stroke, afford ground for the supposition that some inflammation of the pericardium existed; not a general pericarditis, but partial and circumscribed, such as produces the white patches so frequently found on the serous tunic of the

heart. Of this partial and circumscribed pericarditis, there are no other symptoms that I know of than those I have enumerated. It may be objected that the greater and more frequent action of the heart in the present instance depended on the general excitement of the nervous system; but inasmuch as it continued even when the nervous system was tranquillized, this objection can scarcely be maintained.

Besides, the character of the pulse, namely, its very distinct, short stroke, combined with its rapidity, has great weight with me in favour of the existence of a pericarditis in such a complex and doubtful case.

The pulmonary affection was a subacute inflammation of the bronchial membrane lining the larger tubes: it was not a bronchitis properly so called, which is seated in the smaller air-tubes, and is characterized by the mucous wheeze not present in the case under consideration.

The valvular sonorous wheeze resulted from tenacious muco-purulent matter lodging in various parts of the larger bronchial tubes, which, obstructing the ingress of air, and being agitated by it, gave the valvular sounds. The more or less dry character of the bronchial membrane, which prevented the wheeze being humid, depended on the diminished secretion from the mucous surface; the secretion of the mucous membrane being greatly diminished in all cases of adynamic or low fever, and causing the tongue, lips, mouth, and skin, to be so dry.

The presence of bronchial respiration all over the chest, and the dyspnœa, together with the absence of crepitation, were decisive of the non-existence of pneumonia.

Dyspnœa, moreover, is not a symptom of pneumonia; for in this disease the respiration is short and frequent, but not difficult or laborious, unless bronchitis is combined with it. Laborious and difficult respiration depends on the air-passages, whether their channels are obstructed or diminished by disease or spasm of the larynx, or by a pathological congestion of the bronchial membrane; which last was the cause of the dyspnœa in the present case of Wiggins.

I trust you understand that the word pathological congestion is always used as synonymous with inflammation.

The fever was of a low or adynamic character, as evidenced by the foul and dry state of the tongue, mouth, teeth, and lips —by the delirium, the arid pungent skin, and great prostration of strength.

Now came the question of *treatment*. We have seen that there existed cerebral congestion at the base of the brain probably; that there existed subacute bronchitis, perhaps also subacute circumscribed pericarditis; yet the abstraction of blood, even by cupping or leeches, was out of the question, on account of the adynamic character of the fever—of the great prostration—the tremor, and the low delirium—added to which, was the state of anemia, and the delicate frame of body. The same reason forbade the use of antimony; and therefore mercury was the only resource; and a valuable one it proves in these cases. In combination with mercury, opium was indicated by the tremor and nervous excitement; both to be preceded by an aperient, the bowels being confined.

Take Chloride of Mercury, one grain; Opium, a quarter of a grain, every four hours. Sesquicarbonate of Ammonia, five grains, in Camphor mixture, every eight hours. Compound Jalap powder, half a drachm, immediately.

Through the next day she remained in the same state, the bowels not having acted.

Administer an enema.

On the third day it was reported she had passed a very restless delirious night, wanting and trying to get out of bed. This morning she had a very copious offensive dejection in bed; since which she has much less agitation and tremor; the cough is less frequent, and is becoming loose; the respiration less difficult, the skin less pungently hot; the pulse continues rapid—144; the face dusky and rather bloated; the tongue less dry; prostration great.

To continue the Calomel, Opium, and Ammonia. An Anodyne draught, at bed-time, if requisite; an Enema daily, in the morning. Beef-tea, Arrow-root, and four ounces of Port-wine, daily.

4th day.—Had several hours sleep, followed by further diminution of the agitation and tremor, and remission of the delirium. The expression of the eye was less vacant, and all indicated improvement. The cough was looser, and the respiration freer; the vesicular murmur was returning in the right lung anteriorly; and cooing valvular sonorous wheeze, with bronchial and broncho-vesicular respiration, were heard in the other portions of the lungs.

These various sounds, cooing valvular, &c. depend altogether on mucous or muco-purulent matter lodging in isolated masses in various parts of the larger bronchi, agitated by the currents of air in respiration: they obstruct the free ingress and egress of air to the vesicles or cells which prevents the vesicular murmur, so that the respiration is heard only in the bronchi, and is therefore bronchial.

The return of vesicular murmur in the anterior part of the right lung, and of

broncho-vesicular in some other parts, shewed that the bronchi were less obstructed, and accorded with the freer state of the respiration. From this period, indeed, the bronchial affection gave no alarm; it, as also the dyspnœa, gradually subsided.

On the fifth day, without any obvious cause, she was again restless, delirious, had a return of agitation and tremor, and aggravation of all the adynamic symptoms, as tympanitic belly, hot skin, dry tongue, flushed face. She lay prostrate upon the back, sinking down in the bed. The bowels had not acted yesterday. The respiration, though rather short and frequent, was easy.

> Omit the Calomel and Opium; Rhubarb, ten grains, immediately; an Enema of Oil of Turpentine and Castor Oil, of each one ounce—gruel, one pint, immediately. Continue the Ammonia. Acetate of Morphia, half a grain, every night. Wine, Arrow-root, &c.

The bowels were efficaciously cleansed by the purgative and enema to the relief of the tympanitic belly. The morphium procured sleep; and the signs generally began to wear a less unfavourable aspect.

On the sixth day, in consequence of the noise of several persons walking along the passage adjoining the ward, she was thrown into most violent tremors and agitation, shaking and trembling from head to foot, and the respiration so convulsed and interrupted, as to produce great congestion of the face and head; I saw her in this state, which was so violent as to threaten her existence. I directed her to have without delay:—

> Compound Sulphuric Æther, three drachms; Sesquicarbonate of Ammonia, two scruples; Compound Tincture of Lavender, three drachms; Peppermint-water, seven ounces. Mix: one ounce every four hours.
>
> The Morphia at night, and other medicines, with wine and nourishment, to be continued.

The æther quieted her very much, and appeased the general susceptibility of the nervous system, so that she was much less affected by noise and other external influences. She slept much in the afternoon and all night, and on the eighth day she was reported as improving in every respect, taking plenty of nourishment and wine. The tongue moist at the sides, the respiration quiet, the skin of good temperature, the belly soft and not much distended, the bowels open; but the pulse frequent as before, and the prostration of strength still so great that she lay helpless on the back.

From this period there is little to remark. Under the same treatment she improved gradually, except that about the tenth day aphthous pellicles covered the tongue, but these quickly disappeared; and that, about the fifteenth day, phlegmasia dolens commenced in the left lower extremity, from which, however, she happily recovered; and by the aid of quinine she was reported convalescent towards the end of the fourth week.

The brain had now recovered its functions, and the paralysis of the face nearly disappeared. The respiration was perfectly natural, but the action of the heart still too strong and too diffused, and the pulse much too frequent, retaining the distinct smart stroke; all favouring the opinion that the pericardium had been involved. She had no recollection of having been brought to the hospital; nor of any thing that occurred during the greater part of her illness; all shewing how much the brain had been affected.

It remains for me to speak of the *phlegmasia dolens*, its *pathology*, and *treatment*.

When describing a short time back the case of phlegmasia dolens, in the patient Matthew Fearn, I said I should not then enter into the pathology of the disease, but reserve it for another opportunity. That opportunity has now occurred.

In the present case of Mary Wiggins, there took place about the fifteenth day of her illness, while she was lying on the back in a state of the greatest prostration and danger, a more or less hard though œdematous swelling of the whole of the left lower extremity from the groin downwards, the swollen limb being white, varied, however, with numerous minute veins in the skin, while none such were apparent in the other limb. The whole of the limb affected was rather tender to the touch and painful; but the chief pain and tenderness were seated in the groin and antero-internal region of the thigh, where could be felt the femoral vein like a hard cord or bougie, the size of the little finger. The femoral artery pulsated normally on the outer side of this cord-like vein.

Here was a well-defined example of phlegmasia dolens, such as occurs in child-bed women. It was distressing to find this disease shewing itself at a moment when the exhausted powers of the patient were altogether unequal to cope with any fresh obstacle to recovery, and when, consequently, one could not but expect that it would turn the balance fatally against her.

On account of her prostrate condition it was impossible to have recourse to the local abstraction of blood by leeches—the usual treatment of phlegmasia dolens, nor

did any but a soothing treatment suggest itself. While considering this point Mr. Hale Thomson joined us in the ward, and remarked, that he had found benefit in a similar case by suspending the limb from the top of the bedstead, so as to allow the venous circulation of the extremity to be favoured by gravity. The suggestion I adopted at once, and attempts were made to suspend the limb; but the position was insupportable, and the foot and leg, therefore, were merely elevated a few inches on pillows. The effect of even this elevation was, however, most satisfactory. The pain and also the œdematous swelling began to subside forthwith, and the amendment continued uninterruptedly from this period; the cord-like state of the femoral vein diminishing, and the œdema passing away from day to day, till at length complete recovery was effected.

It is only within a very recent period that the pathology of phlegmasia dolens has been understood, it having been established by Dr. David Davis, in an able essay read before the Royal Medical and Chirurgical Society in May 1823, and published in the twelfth volume of the Society's Transactions.

Prior to the discovery of Dr. Davis four theories of the cause and nature of this affection were entertained:—

1. by Mauriceau. "A reflux, determined to those parts, of humours which ought to be evacuated by the lochia." Also, by Mesnard. "Suppression of their lochia, producing an over-fulness of their blood-vessels, and a consequent arrest and coagulation of lymph in the parts affected.

2. by Puzos. "The celebrated doctrine of metastasis of milk—*dépôts de lait.*"

3. by White and Trye. "Obstructions or other morbid states of the lymphatic organs of the parts affected."

4. by Dr. Hull. "The proximate cause consists in an inflammatory affection, producing suddenly a considerable effusion of serum and coagulated lymph from the exhalants into the cellular membrane of the limb. The seat of the inflammation I believe to be in the muscles, cellular membrane, and inferior surface of the cutis. In some cases, perhaps, the inflammation may be communicated from these parts to the large blood-vessels, nerves, and the lymphatic vessels and glands imbedded in them."

All these conjectures—they scarcely deserve the name of theories—were disproved by the pathonatomical investigations of Dr. Davis, who discovered that the large veins of limbs affected with phlegmasia dolens were obstructed by coagula, which adhered to the sides of the veins, and inferred from these appearances, and from the symptoms during life, that inflammation of the veins and consequent obstruction was the proximate cause of the phlegmasia dolens. The white œdematous swelling is merely a dropsical state of the limb resulting from the venous obstruction, the usual cause of local or partial dropsy or œdema.

The cases of Fearn and Wiggins—both true examples of phlegmasia dolens—were characterized by the pain and tenderness in the course of the large veins in the groin—by the cord-like feel of these veins—by the soreness and white œdematous swelling of the whole extremity,—symptoms which left no doubt of there being inflammation and obstruction of the veins. In the case of Fearn, who died, we had an opportunity of dissecting the affected limb; and the preparation now before you exhibits the vein and artery taken from it. You here see the common and internal iliac veins, the iliac and femoral vein, filled with red coagulum adherent to the sides of the veins, so as to block up the channels and obstruct the circulation of blood through them; thus agreeing with and confirming the dissections and opinions of Dr. Davis, viz. that inflammation and obstruction of the iliac veins and their contributory branches are the cause of phlegmasia dolens.

So far the pathology of phlegmasia dolens may be considered as established; but there is one very important point not yet made out, viz. the *cause of the inflammation of the veins.*

How is it, and why is it, that these particular veins, the iliacs, become affected with inflammation? What excites or induces inflammation in them especially? The cases of Fearn and Wiggins, under consideration, will, I think, afford a satisfactory answer and explanation.

The phlegmasia dolens in both these cases occurred under exactly similar circumstances, both patients being reduced to an extreme degree of prostration, and both lying upon the back, with the limbs outstretched and motionless, which appeared to me so far remarkable as to suggest the notion that both may have depended on a similar cause, and that this possibly was a stagnation of blood in these veins resulting from the languid powers of the venous circulation, producing first congestion, then inflammation, obstruction, and œdema—symptoms collectively constituting phlegmasia dolens.

Again, it struck me as remarkable that, in both these patients, the same limb—the left—was the seat of the affection. This led me to inquire how far any anatomical relations or peculiarities of the iliac veins of the left side, as compared with the right, might exist normally, and aid

in retarding the circulation, in the very weak state of these patients. In this inquiry, it certainly does appear that the normal situations of the aorta and cava, and of the iliac arteries and veins, is such as to render the circulation in the left iliac less free than in the right; and although, with this natural arrangement, the circulation of the left iliac may be perfect under the ordinary circumstances of health and exercise, yet, when the powers of life have been reduced to the lowest degree, and when there is an entire absence of all muscular motion, a great aid to the circulation of the blood in these veins, I can then understand that the slight greater difficulty in the circulation of the left iliac might so impede the circulation in this vein as to be the cause of congestion; the congestion, the cause of irritation; the irritation, of inflammation; the inflammation, of complete obstruction; the complete obstruction, of the œdema.

The anatomical relations above alluded to depend particularly on the situation of the right common iliac artery and the left common iliac vein, which cross each other like the letter X.

You will remember that the vena cava inferior lies on the right lateral part of the bodies of the lumbar vertebræ, and that consequently the left common iliac vein, in order to reach the cava, has to traverse the body of the last lumbar vertebra, and in this course passes directly under the right common iliac artery; for the aorta being situated on the left lateral part of the bodies of the lumbar vertebræ, the right common iliac has also to traverse the body of the last lumbar vertebra, in order to reach its destination, the right extremity; and in this course passes anterior to the left common iliac vein: the vein and artery crossing each other like the letter X, on the body of the vertebra. In this arrangement, the left common iliac vein, as it traverses the vertebra, is subject to pressure from the right common iliac artery, and to counter-pressure from the unyielding vertebra; and when it is remembered that the arteries during life are always full, distended, and cylindrical, it is not unreasonable to believe that the vein, placed between the artery on one hand, and the vertebra on the other, and traversed at an acute angle by the artery, is subjected to more or less pressure, and the current of blood along the vein more or less impeded; an impediment, however, of no moment, except when the powers of the body and of the circulation have been reduced to the lowest ebb, when every trivial difficulty or obstacle proves insurmountable. Moreover, the position in which the patients Fearn and Wiggins lay—namely, on the back, with the legs straight and extended—would, by putting the artery on the stretch, determine pressure on the vein; for the arteries taking the shortest course, and being elastic, longitudinally as well as transversely, are stretched when the limbs are extended, and relaxed where they are bent.

This view is borne out by the treatment which, in the case of Wiggins, was found to be efficacious—namely, the elevation of the limb; which had the double effect of favouring the return of blood by giving the venous circulation the advantage of gravity, and of relaxing the iliac artery, and so removing whatever impediment may have been offered by it.

Now, gentlemen, having concluded, from the contemplation of these two cases, that the anatomical relations of the large blood-vessels of the left extremity were in part the cause of the phlegmasia dolens, and were the reason why the disease took place in the left rather than in the right extremity, I was curious to ascertain how far the cases recorded by others agreed in this respect or otherwise; for if the above opinion is well-founded, the phlegmasia dolens ought to occur in the left rather than in the right extremity: this I find to be exactly the case. For example,

One case, recorded by Zinn, occurred in the right only.

Four cases are recorded by Dr. Davis, and in all of these the left was the extremity affected.

Five cases are recorded by Dr. Lee, in all of which the left extremity was affected. In one, the right was affected also.

Three cases are recorded by Velpeau, in all of which the left extremity was affected. In two of these the right was affected also.

Seven cases are recorded by Bouillaud, in all of which the left extremity was affected: in three the right was affected also.

No. Case.	Extremity.	Extremity.
1.—I. By Gottfrey Zinn	Right.	—
2.—I. By Dr. D. Davis	—	Left.
3.—II. „ ditto	—	Left.
4.—III. „ ditto	—	Left.
5.—IV. „ ditto	—	Left.
6.—I. By Dr. Lee	—	Left.
7.—II. „ ditto	Right and Left.	

This case commenced with varicose veins in right extremity during the last two months of pregnancy.

8.—III. „ ditto ..... — Left.
9.—IV. „ ditto ..... — Left.
10.—V. „ ditto ..... — Left.

11.—I. By Bouillaud, from pressure of a tumor ..... Right and Left.
12.—II. „ ditto, „ ditto ..... Right and Left.
13.—III. „ ditto, „ ditto ..... Right and Left.
14.—IV. „ ditto, from Fièvre ataxique ..... — Left.
15.—V. „ ditto, from phthisis ..... — Left.
16.—VI. „ ditto, from abscess ..... — Left.
17.—VII. ditto, from phthisis ..... — Left.

18.—I. By Velpeau ..... — Left.
19.—II. „ ditto ..... Right and Left.
In this case there was abscess in the body of the uterus.
20.—III. „ ditto ..... Right and Left.

SUMMARY.

	Right only.	Left only.	Right and Left.	Total.
Zinn	1	—	—	1
Davis	—	4	—	4
Lee	—	4	1	5
Bouillaud	—	4	3	7
Velpeau	—	1	2	3
	1	13	6	20

By a further analysis of these cases, we shall find, that, in nineteen out of the twenty, the left extremity was affected; but in six of these the right was affected also. That in the twentieth case, where the right extremity only was affected, the disease was produced by a special cause—viz. "some of the inguinal glands scirrhous, greatly enlarged, and surrounding the femoral vein, by which its diameter was very much diminished."

That, in the six cases in which the right extremity was affected as well as the left, there was a special cause, a tumor; in three, viz. Nos. 11, 12, 13, an abscess in body of uterus; in one, No. 19, and in another, No. 7, the case commenced in right extremity during the last two months of pregancy, with varicose veins. Whereas, in all the cases, except No. 20, which have occurred after delivery, or which have not been produced by a special cause, the disease has occurred in the left in preference to the right extremity.

That in three of the cases, Nos. 14, 15, 17, in which there was excessive prostration of the vital powers, and which are therefore analogous to the cases of Fearn and Wiggins, the disease took place, as in them, in the left extremity.

From all this evidence, then, it may be inferred, that phlegmasia dolens is more generally seated in the *left* extremity, and almost universally so when it happens under circumstances of great prostration of the vital powers, or after delivery.

That, where it is seated in the right extremity only, or in the right as well as the left, there is some special cause, as tumor, &c., in operation.

Causes.—Although, then, we may, I think, be justified in believing that the anatomical relations of the left iliac vein, and of the right iliac artery, may be the cause of phlegmasia dolens in the left extremity, where the powers of the body are very weak, we must not forget that other causes may lead to the same result. During labour, for instance, it is the custom for women to lie on the left side, often for hours together, most injudiciously; and the same position is frequently maintained, even after delivery. Now, in this position, one can understand that the left iliac vein may be subjected to pressure from the uterus, both before and after delivery, and the venous circulation of the extremity be impeded, and thus phlegmasia dolens be induced. So, also, may a similar effect be produced by an accumulation of fæces in the sigmoid flexure of the colon.

Whatever, then, impedes or obstructs the return of blood along the large veins of either or of both the lower extremities, may be regarded as the remote cause of phlegmasia dolens; and the three causes just enumerated appear to determine the greater frequency of disease in the left than in the right lower extremity.

The *treatment*, according to the above views of the pathology of phlegmasia dolens, should be based on the principle of removing or obviating the cause, and of facilitating the return of blood along the veins; for as the inflammation of the veins has been shewn to depend on congestion of blood from obstruction, it would be injudicious to direct measures solely to the subdual of the inflammation without

reference to the cause of it. Besides, in cases, such as form the subject of this lecture, where the powers of life are nearly exhausted, antiphlogistic measures could not be pursued. The abstraction of blood, even by a single leech, could not be justified. We have seen how efficacious aad successful the principle of treatment I have just advocated was in the case of Wiggins, where, by elevating the limb and thus relaxing the iliac artery, and at the same time favouring the return of blood along the veins, the disease at once subsided without any other aid. Now had not this treatment been suggested and followed, we must have contented ourselves with the use of fomentations, for leeches were not admissible; and it is more than probable that the disease, in her weak state, would have turned the balance against her, and led to a fatal result, as in the case of Fearn. This treatment is applicable in all cases, and will probably be successful in those arising from debility, and auxiliary in the others, if adopted sufficiently early; but if inflammation has already gone to such an extent as entirely to obstruct the large veins, then its success will be less complete.

You must bear in mind the absolute necessity of ascertaining the cause, and of endeavouring to remove it. If the cause was pressure of the womb, remove it by change of position. If pressure from a loaded state of the sigmoid flexure of the colon, evacuate the bowels; if pressure from a tumor, attention should be directed to it; and as the cause admits of removal or otherwise, so will the cure be easily or with difficulty effected.

As regards the phlebitis, or inflammation of the veins, it will subside if the circulation can be restored by a relaxed and elevated position of the limb; but if, for reasons before mentioned, it should continue, as indicated by tenderness and pain in the course of the veins in the groin, then local blood-letting by leeches should be had recourse to as far as the strength will permit. Dr. Davis is of opinion that general bleeding is "decidedly objectionable," in which I entirely agree. He suggests gentle bandaging—a plan worthy of a trial in cases where there is no permanent cause, as a tumor.

The experience afforded by the cases of Fearn and Wiggins, has enabled us to arrive at the primary cause, and so to perfect the pathology of phlegmasia dolens, by regarding the inflammation of the veins as secondary. It has enabled us also to determine that the first object in the treatment should be to favour and facilitate the return of blood along the veins, which may of itself frequently attain the second, namely, the subdual of the inflammation.

The pathology of the disease then stands thus:—

1. Congestion from some impediment.
2. Irritation.
3. Inflammation.
4. Complete obstruction.
5. Œdema.

The principle of treatment—

1. To favour the return of blood by suspending or elevating the limb.
2. To combat the inflammation, if necessary, by local bleeding, consistent with the strength of the patient.

Any of you who desire to make yourselves further acquainted with the disease, may consult—

Dr. Hull: Essay on Phlegmasia Dolens. 1800.

Dr. Davis's Essay in the 12th vol. of the Transactions of the Medical and Chirurgical Society.

Dr. R. Lee's paper in 15th vol. of ditto.

Velpeau (Phlegmasia Dolens) Archives Générales de Médecine, tome vi.

Bouillaud: Oblitération des Veines; Archives Générales de Médecine, tome ii. p. 188.

SALINE ENEMATA IN CHOLERA.

[Communicated by Sir James M'Grigor, Bart.]

To the Director General.

Sir,

I am sorry to say that cholera did not entirely cease in H. M. 57th Regiment after my last letter of the 23d ultimo. I have received the following report of another fatal case, from Surgeon Morgan, which I send you, as continuative of the history of this attack of the disease in his corps.

(Signed) Jno. Murray, M.D.,
Deputy Inspector.

Madras, 20th Sept., 1838.

"I delayed answering your last letter under the idea, that, as cholera had paid a second visit to the native population here, so possibly might it do to us; and I regret to have to communicate that it made its appearance yesterday in a soldier who had been eight days in hospital ill of dysentery, but convalescing. The invasion was sudden, and with such overwhelming severity, that I prognosticated at once that it would prove fatal. The patient was seized at 2 p.m., and when seen, in fifteen minutes afterwards, he was cold, wet, livid, and nearly pulseless. As he had been labouring under dysentery, I considered

it a good reason for interdicting internal stimulants. He got a scruple dose of calomel with two grains of opium in the first instance, after which the hot saline enemata (at the temperature of 118°) were sedulously administered every half hour, and vesicatory counter-irritants were applied to the nape and præcordium. The calomel and opium dose was probably soon ejected, as the vomiting and conjee-like purging were at first incessant; and I trusted chiefly to the reputed power of the enemata to relieve the symptoms and restore the suspended vital energies—withholding every thing which could be considered to interfere with their salutary action. The most urgent complaint made by the patient, as usual, (indeed it is *invariable*, for it is the only symptom never absent), was that of unquenchable thirst, and craving for cold water, which was partially relieved by effervescing saline draughts frequently repeated; but no improvement was manifested in the state of the collapse. The vomiting, and the spasms of the hands and feet, which were at first distressing, soon ceased; and my resolution in persisting in the plan I had adopted, was encouraged by the patient's falling into a short tranquil doze, and expressing himself easier when he awoke. The enemata were therefore regularly continued every half hour, consisting each of a pint of hot sea water, to which was added a drachm of the carbonate of potass. They were retained generally from two to four minutes; and, when passed, were accompanied with the characteristic rice-like particles, which constitute the congee stool. He had received in this way six enemata, when, seeing that no warmth of body and no pulse were returning, and that restlessness with the alarming sepulchral groaning began, and every moment increased, at 5 P. M., I determined to give a trial to cold effusion. Accordingly, with great care, the patient was lifted out of bed into a large tub, and about six gallons of water, at 78°. were cautiously poured over his head and body; after which he was quickly dried and replaced in bed, having, during the operation, been maintained in a demi-horizontal position. A slight blush of crimsom took place upon his cheeks as the water was poured over him, but no other effect was observed; he continued to moan incessantly, and prostration increased in so decided a way, as to contra-indicate a repetition of the effusion; and he sank rapidly, maintaining his intellectual faculties, however, to within a few minutes of his death.

In this case there was strong evidence (at least I think so, from the gorged appearance of the subcutaneous veins) that congestion took place very early in the venous system. It was most apparent in the veins about the head—in those traversing the temples, forehead, and root of the nose; and it may be asked—would not bleeding, leeching, and cupping have relieved this? to which my answer, from experience, is—no; and the only explanation I can give of this is, that the supply of that mysterious agent—the vital principle — nervous energy—or whatever that may be called which constitutes life, and ceased to be furnished—the apparatus of the organs which elaborates this principle being destroyed as completely as it would be by a sledge hammer; or so deranged as to furnish a destructive instead of a vivifying agency. Supposing this to be the case, even if the congested vessels were relieved of a part of their stagnant load, they would not thereby be enabled to perform their part in circulating the remainder; nor, supposing the mass of blood to be vitiated if this were withdrawn and replaced by transfusion of healthy blood, could this operation be of any use without nervous influence being supplied to keep the blood in a healthy condition, and to give the vessels the power to circulate it. Neither could the stimulus of the injection of any saline solution into the veins to be of avail. The morbific cause is, in such cases, so overwhelming, as to render all human aid futile. 'The wheel is broken at the cistern.' It is remarkable that the intellectual functions do not seem immediately to participate in the destructive effect of the invisible agent, but only the animal functions. The saline enemata are probably as good as any other single remedy; but this case proves that they are no specific, and that they are not to be relied upon for the cure of an intense case of the disease, yet they are not by any means to be thrown aside as valueless on that account. Perhaps, it may be said, that this was a case for the trial of chlorine, or the nitro-muriatic acid mixture, the effect of which is refreshing and reviving, besides having a ten-

dency to check the colliquative sweating; and hence these medicines may be valuable remedies to be used either as drink or injection, but they seem to have got into disuse, whether from their not being known, or having been found inefficacious, I do not know. I wish you may be able to inform me. I do not deprecate bleeding—on the contrary, I am aware that in many cases it is a remedy of the first importance.

I believe cholera to be a fever of a peculiar type, the cold stages of which is most intractable and fatal: that it originates, as other fevers do, from a subtle miasm, also peculiar, the nature of which is perhaps utterly incomprehensible to our finite perceptions; and that an *intense* case of it has seldom been cured by any of the remedies hitherto employed. No doubt a skilful discriminating practitioner will be more successful than an ignorant routinist; but I feel convinced that many cases are absolutely incurable. That some cases, apparently hopeless, have recovered I know; the cause of the recovery, however, like the invasion, remains a mystery: I believe it most probably attributable to some surrounding change—meteoric or atmospheric. It is from cholera being different in different places, and at different periods, that it is so variously reported: at one time it is easily managed, and remedies then used are cried up as infallible, which, on another occasion, when tested, are found worthless, or worse than useless.

The *post-mortem* appearances are always unsatisfactory; and, in nine out of ten cases, the effect of treatment. In this last case no stimulating remedies having been used, the appearances were exactly such as are presented after drowning. The venous system throughout was congested, especially in the head; yet I do not think that this was the cause of the mischief, but the effect of it; and perhaps only one of the *minor* effects; for the mental powers remained intact till nearly the end of life. The stomach and small intestines were natural, and any unhealthy appearance in the large intestines was rather attributable to the disease with which the patient had been previously affected, than to the effect of cholera. 'In short, he died of asphyxia.'

(Signed) A. B. Morgan.

Cannamore, 9th Sept. 1838."

P.S. Only one other case occurred, which terminated favourably under similar treatment to that above described. The man was also in hospital, convalescing from dysentery contracted in the prison cells. I have received several reports of the utility of *hot saline enemata* in cholera, and the invasive (cold) stage of idiopathic fevers, in which tepid cathartic enemata may be considered indispensable.

John Murray, M.D.

Madras, 3d October, 1838.

APPLICATION OF THE SHORT MIDWIFERY FORCEPS.

To the Editor of the Medical Gazette.

Sir,

If the following observations on the short midwifery forceps, especially in reference to the mode which I have long practised in their application, appear to you of sufficient practical importance, their early insertion in your valuable and widely circulated journal will much oblige, sir,

Your obedient servant,

John Renton.

Penicuik, 25th Feb. 1819.

It is almost unnecessary for me to premise, that the cases in which the application of the short midwifery forceps is called for, comprise all those usually included in the second order of laborious labours, where mechanical means for assisting delivery are resorted to, in consequence of the inefficiency of uterine action to propel the fœtus through the inferior aperture; it being understood, that there does not exist any actual disproportion, between the pelvic passages, and the size of the infant's head, or at least to such an extent as to prevent the child being born alive. It is also taken for granted, that the continuance of labour, without artificial interference, would prove injurious, though not perhaps in an equal ratio, to both the mother and the child.

The use of the short or common forceps of this country, says Dr. Davies, "always supposes that the head of the child shall have previously entered, and reached a considerable depth within the cavity of the pelvis. This rule is considered as being perfectly well understood and established in the practice of this country; and our instrument is accordingly adapted to this more limited

object only, and never used for the purpose of bringing the child's head from above the brim into the cavity of the pelvis."—(Obst. Med. vol. ii. p. 1113.)

It will be found, if the parturient action has advanced the child's head so far as to form, what is called, the perineal tumor, the easier will be the application of the instrument, and *vice versâ*. When this takes place, it is presumed that dilatation of the os uteri has proceeded, so as to have effected obliteration of the cervix.

It requires so much care and caution to introduce the blades within the orificium uteri, and the difficulty of guiding them by the fingers is so great, when the pelvic passages are filled up by an almost impacted head, that the only safe practice is to wait for these conditions before having recourse to the instrument; all earlier attempts being, in my opinion, not only hazardous and uncalled for, but generally ending in the failure of adjusting the blades, until uterine contractions have propelled the head to the extent I have described, or in other words, until the os uteri has receded so far over the head, that there is no danger of grasping the former in applying the instrument over the ears of the latter.

To prevent such an accident, the finger is generally recommended to be used as a director. On such occasions this advice, I believe, will be found to be impracticable. Dr. Hamilton, from experience, was well aware of this, when he stated, "that it is not necessary that the ears be felt," and that, "during the last 30 years he has had occasion to use the forceps, he has never even endeavoured to feel the ear of the infant."—(Pract. Observat. vol. ii. p. 111.)

I apprehend, where there is space enough left for the introduction of the forefinger, between the head of the child and the sides of the pelvis, in order to guide the forceps, that there will generally be little or no necessity for the use of the instrument. Under such circumstances, time, and the exercise of a little patience, and good management, will be quite sufficient to enable the natural powers to complete the delivery without instrumental aid.

Cases of malposition of the head certainly form exceptions to this rule. I agree, however, with Dr. Davies, that though it may not be necessary to wait in all cases for what is called total obliteration of the uterine aperture, "yet even the exceptions to these cases," (where immediate delivery becomes indispensable, in consequence of symptoms of great urgency and imminent danger arising from hæmorrhage, exhaustion, convulsions, rupture of the uterus, &c. &c.) "are to be allowed, without prejudice to the general rule of practice, which requires a sufficient development of the os uteri, to admit the child's head to pass through it, without incurring the risk of laceration."

I am the more particular in stating, that the ear of the infant can seldom be reached by the finger, in natural presentations, where the forceps can be safely employed, because a line of practice (as appears to me altogether unwarranted) has been recommended to be followed in such cases. In proof of what I have said, I could cite, if it were necessary, the details of many cases of protracted labours, in which I have been consulted, where compression formed the only source of danger, in which it was impossible by examination with the finger, to ascertain the exact position of the ear, in consequence of swelling of the scalp, and of the soft parts within the pelvis, and from the size of the infant's head, and the general depth of the cavity of the pelvis itself; and, notwithstanding, I have succeeded with the forceps in saving the life of the child. How unjustifiable would it have been to have used on such occasions the crotchet, as has been proposed, for the purpose of reducing the size of the head! I perfectly coincide with Dr. Hamilton, if the rule was to be adopted (where the disproportion between the head of the child and the pelvis is so great as to prevent us reaching the ear with the finger,) that the only measure for affecting delivery is by embryotomy, "the forceps could not be employed once in twenty cases, where" he from experience "knows it to be both safe and useful."—(Pract. Obser. pt. ii. p. 110.) If the use of the forceps was limited by such a rule, in place of being, what I consider it to be, an invaluable instrument, it would become a comparatively valueless one.

Although an advocate for the timely application of the forceps, I would plead strongly against their indiscriminate employment. One general cause of

failure is, that they are often used too soon. In the hands of those whose heads are guided by apprehension, impatience, and ignorance, I need scarcely add, that this useful instrument is converted into a weapon of the most dangerous kind.

I shall not now enter into the debated question as to the precise time when instrumental aid becomes necessary. This must in a great measure be left to the discretion and good sense of the practitioner, whose conduct will be regulated by the symptoms of every individual case. "Although," says Gooch, "a precipitate use of instruments is never justifiable, it is better for one, who is familiar with the application of the forceps, to deliver his patient after waiting a moderate time, than to permit the continuance of fruitless pains, or hazard the more serious evils of protracted labour."—(Pract. Compend. p. 205.) Dr. G. might have added, that when one is not familiar with their use, the first trial should never be made except in the presence, and with the assistance of him who is so, in order that the lamentable and incurable accidents, which so often result from rashness and inexperience, may be avoided. Nothing, as Dewees has remarked, "but a careful experience upon the living subject can ever make a man adroit in their use."

Between cases of impaction, eventually requiring decided interference, and those of simple arrest, which the natural powers may terminate favourably without aid, a prompt discrimination must be made. One may be too late in affording assistance in the first case; but in the latter case, when the labour is tedious, and the spirits of the patient depressed or exhausted, if you be cautious you seldom can be too soon, provided the head be far enough advanced; for it is a fact consonant to every day's experience, that the introduction of the instrument (sometimes even of a single blade) acts as a uterine irritant, by renewing suspended action, and exciting fresh contractions, and will greatly expedite delivery, without much traction or compression having been employed.

As the mode of using the forceps forms the more immediate object of this communication, I shall now briefly state how this is to be done.

Since the days of Chapman, when this "noble instrument," as he calls the forceps, was so rudely constructed as to have its blades fixed by a screw, to the present time, when Dr. D. Davies has strained invention in carrying mechanical improvements on it perhaps too far, the common and universal direction given for its introduction was slowly and carefully "to glide or slide, with a slight wriggling motion," each blade repeatedly, during the absence of a pain, between the two forefingers and the head of the child, either by the side of the pelvis, or towards the pubis. Thus Dewees advises, that "we take hold of the male branch of the forceps with the left hand, and hold it as we would a pen when writing, while we introduce two or three fingers into the vagina against the child's head, and under the edge of the uterus, if practicable; we then hold the handle or blade nearly perpendicular, but inclining to the right side of the mother, then insinuate the blade between the labia," &c. &c.—(System of Midwifery, p. 319.) The following authors give almost similar instructions; see Gooch's Compend. p. 208; Conquest's Outlines p. 100; Blundell's Lectures, p. 125; Burns' Midwifery, p. 448; Merriman on Difficult Parturition, p. 166; Ryan's Manual, p. 546; Denman's Midwifery, p. 277; and Baudelocque's Midwifery by Heath, vol. iii. p. 43. "The blades of the forceps," says the last author, "ought always to be applied on the sides of the head."

I practised this plan for some years, but I experienced so much difficulty in the application of the instrument, that I was more than once fairly foiled, and almost on every occasion when I used it, was engaged fully half an hour before I adjusted the blades. It might be said, that so much time could not be occupied, if I had possessed the requisite manual dexterity; but I have witnessed the same tardy process under the hands of practitioners, to whom want of practical skill could not be imputed, when this part of the operation was performed in a similar way. It was a matter of deep regret to me, that the patient was either to be exposed to the alternative of prolonged and unassisted suffering, if I declined, which I acknowledge, I sometimes did, having recourse to the operation, from fear of not succeeding; or of having much un-

necessary pain inflicted in the performance of it.

The great obstacle which I always experienced in the introduction of the instrument, lay in the first application of the extremity of the blades to the head. When the instrument was pushed forward in the lateral direction of the pelvis, its progress was liable to be arrested by folds of the scalp and the vagina, before the concave part of the blade reached the cranial convexity. But when it was introduced by the perinæum, I found this difficulty was perfectly obviated. When this difficulty is once got over, and the instrument is moved slowly onward till it rest, we will find, as Dr. Burns observes, that it has almost gone, *suâ sponte*, in a right direction. But before this can be safely, easily, or successfully effected, it is taken for granted, that the head has descended far enough into the pelvis, and the os uteri receded (as I have already stated) far enough over the head, so that the extremities of the forceps can be passed over, and embrace the base of the skull in their grasp. As necessary preliminaries to the operation, I need scarcely add that the vesica urinaria and rectum should previously be emptied of their contents. To the neglect of this simple but useful precaution, I consider that the distressing lesions inflicted upon these organs, by the incautious use of the forceps, are in a great measure to be attributed.

"In performing a delivery by means of the forceps every attention," says Dr. Dewees, "should be paid to delicacy, that it shall not be wounded; and every care should be exerted, that the patient be not subjected to unnecessary pain. The operator must become familiar with the introduction of the instrument without the aid of his sight, more especially as this cannot serve him, and must, if employed, be highly offensive to the patient."—(Midwifery, p. 314.)

In order to attain these very desirable ends—that the operation may be both in appearance as in reality as little formidable, and performed with as much ease to the patient as to the operator, I object to Dr. Dewees' position of the patient, when he says that "the woman, about to be delivered with the forceps, is constantly supposed to be placed upon her back."—(Midwifery, p. 318.) She ought always, in my opinion, to be placed upon her side, as in natural labour; and no preparation should be made to appear to the patient, that the accoucheur had any extra duty to perform. The assistance afforded by the instrument should seem as if the operator, in using it, had only added to the length and strength of his natural digits.

Although by the mode which I follow in the introduction of the instrument, the blades can be applied with equal celerity as safety, I would on no pretext whatever hurry on the delivery; for the time to be occupied in effecting the traction of the head must wholly depend on the degree of difficulty to be overcome. I have known not a few instances in which I was persuaded both serious injury and fatal mischief were done to the infant by compression of its head with the instrument, occasioned entirely by the impatience of the practitioner in unduly expediting its extraction. To prevent the occurrence of such accidents, manual force on the blades should be gently exercised, and their handle ought never to be tightly secured by tape. Artificial aid must be made to imitate the natural process of parturition. Not only is much experience required how to attain the power which is necessary neither to injure the mother, nor to destroy the offspring; but much discretion becomes indispensable, in not abusing or misdirecting that power after it has been placed in our hands. Although we may not be disposed to deny what Merriman asserts, "that it is much better to introduce them (the forceps) slowly and safely, than hastily and dangerously;" we see no reason why speed may not be advantageously combined with safety in the proper application of the forceps, any more than that danger will not accompany slowness if the operation be not skilfully performed.

The blades of the instrument should be heated to the natural temperature of the body; and it is a more useful point, than is generally admitted, as tending greatly to facilitate its introduction, that the blades, as well as the internal passage and the scalp, should previously be well anointed with lard or oil.

It is almost unnecessary for me to state, that the instrument to the application of of which all my remarks are referable, is not the straight but the ordinary

double curved forceps; vide plate XXXII. in Davies' Obstet. Med. p. 1098. The instrument there delineated and described is very similar to the one I have used for upwards of twenty years, the only difference being in the width of the fenestræ, which is an inch and a quarter greater than in mine. I am satisfied that from two to three inches added to the length of the handle would be a decided improvement, by adding greatly to its power; the only danger that could possibly arise would be, that the blades might be introduced too far up the pelvis, or that traction and compression might be too forcibly exerted without it, especially in the hands of a rash practitioner.

After all the necessary precautions have been adopted, I introduce the two forefingers of the left hand into the lower part of the vagina, carrying them backwards towards the rectum, and on the plan thus formed, the instrument is to be conducted. Holding with my right hand the upper or right blade (which I always introduce first), its broad and round extremity is gently pushed forward in the direction of the coccyx, and turned gradually forwards in opposition to the head of the child, between which and the pelvic concavity it is moved upwards, until it encompasses the parietal protuberances. The left or under blade is introduced in a similar way. There is no difficulty in making the blades lock, for introduced in this mode, they can be made to traverse the whole circumference of the pelvis; and in order to effect a speedy adjustmeut, all that is necessary is to keep them opposite to each other, (which I usually do in a lateral direction, except in cases of malposition, where the locking must vary according to the position of the head,) and to preserve them of equal lengths. If they slip, one blade must be pushed forward and upwards, and the other perhaps withdrawn a little, or moved round, until the handles lock.

The forceps used in this way are so easily and so soon introduced, that the patients often are not aware that they have been applied. This facility is readily explained, when we examine that part of the mechanism of parturition relative to the occupancy of the child's head in the hollow of the sacrum, as it makes its exit through the outlet of the pelvis—positions in which the double curved forceps is usually employed as an extractor, and where its utility, both in regard to traction and compression over the straight forceps, becomes at once apparent.

In first labours, and in cases of simple arrest which often occur in these, after the termination of the first stage, and especially when that has been mismanaged, the instrument used with the direction I have given, and under the limitations prescribed, will save many hours of suffering to the patient's body and the anxiety to her mind. It will also greatly abridge the period of attendance on the part of the accoucheur—a consideration of subordinate importance certainly, but one which ought not altogether to be overlooked, in estimating the general advantages of an operation by the safety and efficiency of the means employed.

I am almost tempted to refrain stating how soon the blades can be locked, lest it should induce any to throw away all caution, and to substitute "the deed for the well-doing of it,"—an evil very apt to be committed when the movements of dexterity are calculated merely by moments of time, and security inconsiderately sacrificed to celerity.

I may mention, however, that I have adapted the instrument in bad cases in two minutes; and that I almost never require more than the interval between pains recurring at the ordinary period of three minutes to fix both blades exactly. I have done this repeatedly before some of my neighbour practitioners, who have since adopted my plan.

In conclusion, I cannot fortify these discursive observations on the important manual operation of speedily, easily, and safely applying the forceps more appropriately than by the following quotation from Dr. Burns:—"The mere introduction of the forceps, if gently accomplished, can scarcely be more hazardous, than the introduction of the finger, for no force is or ought to be exerted. If there be hazard, it must be in the process of extraction, and this it is evident can arise only either from pressure of the instrument on the soft parts, or from the head and instrument lacerating the perinæum. The last event must in general be the consequence of want of caution, and the first can never be carried to any dangerous degree, in a case of arrest, if the operator knows how to direct his efforts."

EFFECTS OF COLCHICUM AND LYTTA—EXTERNALLY.

To the Editor of the Medical Gazette.

Sir,

A remedial agent is valuable in proportion as it is efficacious, simple, and easy of application; and this consideration has induced me to forward some observations I have made in this hospital on the effects of colchicum and lytta in rheumatism and vesical paralysis, when used topically. I think they will interest the professional public. I have added one or two short remarks on the use of opium and belladonna in a similar way.

Some theoretical speculations led me to try the following liniment in rheumatism:—

℞ Tr. Rad. Colch.; Tr. Camph. aa. partes æquales. M.

The patient who used this was a tall groom (Richard Bould), under the care of Dr. Belcombe, subject to rheumatic attacks, and who at the time was unable to lift his arm, on account of rheumatism of the deltoid muscle. I was agreeably surprised to find that, after the third application, and within twelve hours after the first, he was able to raise his arm freely to his head. The relief was, however, only temporary, but the application was used with equal success so often as the pain recurred. The patient was subsequently attacked by small-pox (after vaccination), and nothing was heard of the rheumatic pains until he was convalescent, when they attacked his hip. He reminded me of the liniment, and one trial removed the pain. I now prescribed it for two or three out-patients, and these derived benefit. I then omitted the tincture of camphor, and I now find the groom is relieved with equal celerity and certainty by the tincture of colchicum-root alone. Relief so constantly follows its application in his case, that I cannot doubt its utility. When the loins are affected he cannot turn in bed unless the tincture be previously used. He rubs one or two tea-spoonsful on the part affected. I have found it equally successful in another case, in which the deltoid muscle was affected.

The only notice I can find of this method of using colchicum, is in the "Dictionnaire de Mat. Medic." of Merat and De Lens, ii. 361. A Dr. Gumpert is there quoted (from Rev. Méd. i. 140), as having used the tincture of seeds of colchicum as a local application in gout and rheumatism very successfully. The particular instance of a clergyman is mentioned, who was confined to his bed for a month or six weeks with the latter, and who was able to leave it on the fifth day after frictions with the tincture of the seeds. From theoretical considerations, which I need not detail, I think it will be found a useful application in gout as well as rheumatism. Those who have corns, which are painful during atmospheric changes, will probably find the twinges of those delicate pedal barometers alleviated by the topical use of some preparation of colchicum. *Bursal* rheumatism will, of course, be most relieved by its use.

Lyttæ in vesical paralysis.—I believe it is well known that the tincture and powder of the *melöe vesicatoria*, or cantharis, is very useful in atony or paralysis of the bladder, especially of hysterical and aged people. I have found, however, that an *emplastrum lyttæ* applied to the loins is equally efficacious, and much more manageable. A female, confined to bed in the last stage of laryngeal phthisis, could not pass urine without raising herself upon her knees. She was at last too weak for the effort, and it became a question how the difficulty could be surmounted. I recommended an emplastrum lyttæ to be applied to the loins or sacrum, until she felt able to empty the bladder in the recumbent posture. In half an hour after the application she succeeded. She lived for three or four weeks subsequently, and the plaster was in almost daily use until she died. In most instances from one to two hours elapse before the desired effect is produced; in hysterical retention about the latter period. The plaster is useful in other cases. A man came to the hospital with a catheter in his bladder; he had not made water without it for three weeks. It was removed, and an emplastrum lyttæ applied to the sacrum for three or four hours; he never wanted the catheter again, and went away in a week quite well. I am not aware that this method of using the fly is mentioned by authors.

Dr. Simpson (physician to the hospital) uses a belladonna plaster over the

region of the heart, to quiet violent palpitation; I have found it very successful, especially in nervous palpitation. The belladonna plaster will also relieve irritable bladder, and neuralgia or irritability of the rectum. The plaster should be made with the pure extract spread on lint or leather, and applied moist to the sacrum or perineum. I think an opiate plaster, made with powdered opium and soap cerate, is more efficacious than the belladonna, at least in irritable bladder; it will sometimes enable a person to rest undisturbed during a whole night.—I am, sir,

Your obedient servant,

THOMAS LAYCOCK.

York County Hospital,
Feb. 1839.

TWO CASES OF CEREBRAL DISEASE.

By DR. DAVID BADHAM.

(For the London Medical Gazette.)

EARLY in April I attended Miss E. B., for slight functional derangement of the stomach; when I was requested to give an opinion respecting the character of certain superficial ulcers situated in different parts of the body, and succeeding each other, (one healing as another broke out), for several months past. On examination, I found five very superficial ulcers, of inconsiderable size, (the largest might have been covered by a two-franc piece), and each surrounded by a livid-looking ring, of about half an inch in extent beyond the immediate seat of ulceration. As my patient, though member of a large and healthy family, was evidently herself of a delicate and lymphatic habit of body—as the uterine function was shortly expected to declare itself, (she was just turned of 14)—and as the ulcers were plainly of the indolent kind, and had not healed under mercury and iodine, (tried before I saw her)—and as moreover the digestion was indifferent, such general directions were given as would naturally occur; and for a local application creta ppta. was to be dredged over the surface of the ulcers: for internal use, sarsaparilla, with the liquor potassæ. Under this treatment the sores shortly assumed a healthier hue, and eventually healed up in about six weeks from its commencement.

Two or three days after the closing of the last ulcer, she began to experience shooting pains in the head, which were remarkable, she said afterwards, for their very acute character, and for the extreme shortness of their duration, being mere momentary lunges, and never of many seconds' persistence; thus her family was in ignorance of their existence till the eleventh or twelfth day from the time she had noticed them. During the two days immediately preceding that communication these pains had become "more intense, she thought, and of considerably longer duration;" up to this day, however, (and for several days afterwards), the intermissions were still long and perfect, the head remaining quite free from all uneasiness of any kind during by far the greater portion, and all the earlier part of the day; her sleep, too, up to this period was calm and refreshing, and her digestion scarcely inferior to her appetite, which was excellent; and she was lively, active, and cheerful. The day on which I was first asked to revisit her after the cure of her ulcers, was a *fête* day: she had been taking a considerable walk with her sisters to hear some church music, in St. Roch, where she was suddenly seized with one of these shooting pains, of such violence as to compel an immediate return home, where I saw her about two hours afterwards. The intensity of the pains by this time had gone, and she was sitting up, the position she continued to prefer till within about a week of her death, the recumbent posture always aggravating her sufferings; but though the acute pain had greatly subsided, there were other symptoms, which seemed sufficiently pronounced—a flushed state of the cheeks, suffused eyes, with swollen eye-lids, a somewhat hard and considerably accelerated pulse, undue pulsation of the carotids, accompanied with a general feeling of illness, and a dull heavy ache over both orbits. Yet as the above symptoms did not appear sufficient to warrant any immediate conclusion respecting their origin, and as the patient felt already better, five grains of calomel, to be followed by a black draught early the ensuing morning, were ordered, together with cold applications to the head and a mustard foot-bath. At an early hour next day I found my patient already dressed; she came forward to greet me with a smiling face, and said she was, and looked what she affirmed herself to be, "quite well."

Questioned as to the pain in the head, she said gaily, "Oh! that's a mere nothing now, I scarcely feel it at all." The pulse was natural, the skin cool; nobody would have believed in the possibility of latent mischief. Next day, at the same hour (the third morning), I learn that, four or five hours after my previous visit, the pains in the head had returned with considerable violence, gaining a maximum of intensity towards 8 P.M. One of the family, who had felt the pulse at that hour assured me, it was at lease 110 in the minute. Notwithstanding this unfavourable report, I find my patient at 10 A.M. much in her usual state; all symptoms of fever at least have subsided; the pulse is under 80; the skin cool and comfortable; and she is quite unwilling to be considered as an invalid. I learn, in the course of conversation, that there have been short paroxysms of headache every day for the last fortnight, always extremely sharp and severe, but never of many seconds' persistence: these pains, which have occurred at irregular periods (frequently most severe in bed,) left the head perfectly free from uneasiness during intervals of four, five, or even six hours; but within the last four days a "heavy pain over the orbits" has supervened to the acute one, which gets worse towards evening, and then the shooting pains first noticed become more frequent. In the evening, I find the countenance (which is naturally pale) extensively flushed, the vessels of the head and neck unduly active, heat of skin rather sharp, and the tongue coated with a white fur; the pulse is upwards of 100, hard, and somewhat vibratory in its feel; she is thirsty. She now complains constantly of the head, which, to use her own words, "aches dreadfully, and feels as though it were pressed upon by a heavy weight;" there are still momentary lunges of the acute pain of great intensity, and these are renewed by the least motion of the head. The headache is felt to be so unlike common headache, that she expresses a fear lest "the ulcers which have been cured in the legs are breaking out in the brain." The back of the head and behind the ears to be covered with leeches; a scruple of calomel, in three-grain doses, to be taken every three hours.

On the fourth morning, though weakened by the leeches and bleeding, she feels "quite nicely;" the pains are no longer complained of; but she has "a feeling of an indescribable kind in the head," which is not pain, and "but for this feeling would have nothing the matter with her." She requests to sit on the sofa, as the bed always makes her head worse. I see no further ground for active interference; the head-pains are diminished, and every thing appears going on prosperously.

5th day.—On this day she is seized at 6 P.M., while walking across the room to reach a book, with piercing pain through the head; immediately replaced as before, by the heavy pain over the orbits; nausea is now to be added to the symptoms; the pulse, however, is scarcely accelerated; cold applications no longer relieve, but even seem to exasperate the pain in the head. Great relief is obtained by pressing over the temples with the hands; under strong pressure the pains, though still felt, are scarcely worth speaking about.

6th day.—A change had taken place, which I was certainly not prepared for. I find my young patient sitting at an open window, enjoying the light and air, chatting with her family, and taking a full share of interest in all that was passing in the street and around her. She requested one of her sisters to get her some amusing book, as she felt she was now getting quite well. This amendment, or apparent convalescence, was of short continuance; she was not so well in the evening, but was annoyed by noise, and wished not to be disturbed. I now noticed for the first time some slight convulsive spasms of the limbs, over which, however, she had perfect control when her attention was called to them. From the first, indeed, an exceedingly slight tremor of the hands had been perceptible, and I had mentioned it to the family, who ascribed it to nervousness, as they said it only took place while I was present.

7th day.—I requested my friend, M. Louis, to see her with me. After a long investigation he forbears to give the disease a name, but inclined to the opinion that the symptoms are due to uterine irritation, and in some way connected with hysteria. At his recommendation, and in the hope that this view might be correct, leeches to the internal thighs; the mustard pediluvia; valerian and assafœtida; the action of the bowels quickened by salines.

8th day.—She has now become very restless, and throws her limbs about, moaning and complaining, not of pain, but of a great heaviness over the frontal sinuses, except when she lies on the right side, in which position the left temple becomes the seat of a severe pain; distinct subsultus, and short fits of somnolency, are new symptoms. The pupils up to this time have been lively, and of equal size; the pulse now seldom under 100.

9th and 10th days.—Increase of restlessness; occasional flushings of the face. The purgatives brought away one or two black tarry evacuations. Complains all day of a feeling of extreme cold, notwithstanding all artificial resources; retains perfect possession of her faculties and of her senses; when her attention is claimed, answers correctly, but when left to herself wanders slightly; her memory is less retentive.

11th day.—Says she "is a shade better," but I observe no such improvement. The pupil of the right eye is now enlarged, and slow to contract; sight impaired; she cannot discern the pattern of a friend's gown; she can, however, make out and read letters in large type on putting them close to the eye; her memory evidently much impaired within a few hours. M. Louis has again seen her, and now thinks we have a case of "typhoid fever"—an opinion which I cannot partake. Absence of all abdominal uneasiness on pressure.

12th day.—She picks the bed clothes and makes faces. Roused to answer questions, says the worst pains are now in the loins; a sudden numbness of the right side, which lasts only a few minutes. Says "she feels that she cannot articulate, but is obliged to speak thickly" (in strict accordance with the fact); the evacuations continue similar.

13th day.—I saw her with Sir Robert Chermside; we found her scarcely conscious, violently agitated, springing up in the bed, &c., and her countenance has singularly changed since the morning. At his suggestion calomel was again administered, with James's powder. She seemed rather better all next day, but on the 15th a rapid prostration of strength had taken place; now complains constantly of the head; the eyes much suffused, as they were at the beginning of the illness, which is now evidently drawing rapidly to its close. In consequence of her excessive weakness recourse to stimuli, the effect of which is a momentary rally.

A night of great agitation and distress ushers in the day of her death, which occurred on the 16th day of my attendance, and on the 28th from the day when she first felt shooting pains in the head. She sunk somewhat suddenly at about 10 A.M. How obscure is all cerebral disease! How insufficient all the diagnostic contributions of Serres, Lallemand, Abercrombie, and others! How singular the occurrence of this fatal attack after the healing of a disease of the skin! How remarkable the intermissions, while it is clear that mischief was proceeding in some part of the organ, which we were not allowed to investigate! A fatal cerebral disease, which could impose on a practised observer for hysterical!

Case II.—A little girl, of 13, of a cachectic habit of body, and remarkable for a precocity of intelligence, so long back as five weeks before I saw her, had been falling off in her appetite, and for a fortnight had complained of an uneasiness in the head, scarcely yet amounting to pain. This uneasy feeling in the head was paroxysmal; coming on daily at about 4 P.M., and declining again towards evening; so that she went to bed without any unpleasant head symptom whatever; had no uneasiness of head when she rose, nor yet during the next day, till 4 o'clock, when it always returned, with a sense of weariness, which was shortly followed by an accelerated pulse, a flushed cheek, and occasionally with thirst. Such was the account given by her family on my first morning visit. At this time the most striking symptom was her great pallor, and the extreme lividity below the eyes. Her pulse was about 90, weakness being its prominent characteristic. There was no uneasiness of the head; no sickness of stomach, but thorough anorexia; no pain on pressing the abdomen; a tongue very red at its tip; and the papillæ were remarkably salient. Two days employed in attentive consideration of this case, during which I again examined the abdomen, and was satisfied that the alvine evacuations were perfectly healthy. Conjectural questions having brought no clue to the nature of the disease, I seized

upon the announcement of her having passed worms as a possible solution of the case, and began to view the periodic headache (which had now become a positive pain), together with the heat of skin, the occasional flushing after food, and a sort of risus sardonicus, or twitching of the levator muscles of the mouth and alæ nasi, as dependent on worms; but even at the time I could not dissemble from myself the absence of many symptoms which make worm cases not generally obscure—no fœtid breath, nor ravenous appetite, nor itching of the nose or rectum. On the supposition, however, or rather hope, of worms, calomel and scammony, turpentine and castor-oil, were tried, and the symptoms were all aggravated. And now, without wholly abandoning the suspicion of worms, I suspended the employment of these rougher medicines, and determined to try the effect of small doses of iron, although the pulse at this time, just a week from the time of my first visit, was seldom lower than 110. Under the use of the tartrate of iron, the appetite underwent a remarkable change for the better; she ate with relish, and required no opening medicine. But there was no other improvement. The pulse, indeed, was felt a little stronger, but the febrile symptoms were now constant. There was some remission in the earlier part of the day, but that was all; and the *headache had now become fixed in the balls of both eyes and over both orbits.* I discontinued the iron after the ninth day. She had now been complaining of this headaehe for rather more than a month, and it had been gradually getting worse by almost imperceptibly degrees. She was seized, at about this period with a violent acute pain through the head and down the malar bones along the right side of the face; the prodrome of yet acuter sufferings. (This neuralgia returned at intervals, during the whole remaining period of the disease.) It seemed not associated with the heavier orbital pain, which was constant. The seat of the disease was now evident. She became intolerant of light and of sound, particularly of the former, and the right pupil was slightly dilated. The stomach, which had up to this period been unaffected, now rejected every thing. V. S. in the patient's weakened state, and at so late a period of a still unknown disease, being inadmissible, leeches to the anus, blisters to the thighs, calomel, and James's powders, were had recourse to. I asked Dr. Roberton to see her, who recommended perseverance in this plan. The intolerance of the stomach in the middle of this the fifth week of her illness, had become such that for two whole days no nourishment could be taken and no medicine retained: at length, under the influence of hydrocyanic acid, the extreme irritability of that organ was somewhat relieved, and she retained a little nourishment. Intermission in the pulse next took place, and it fell from 110 to 85. Another week, during which she sometimes fancied herself better, sometimes not so well, but never lost her intelligence, and her sensibility to kindness was apparent to us all. The headache during this week varied considerably in its amount, but never ceased. During this latter stage of her illness, she complained of an acute pain over the region of the last lumbar vertebræ, not sensibly increased by pressure; and this pain became a chief subject of complaint during the four or five last days of her life, which terminated after a half paralysed state of the nerves of voluntary motion, involuntary twitchings of certain of the muscles of the eyes and mouth, fits of abstraction and returning conciousness, during which she lay passive or threw her limbs about, complaining of "feeling very ill," in a night of rambling delirium, and a convulsive seizure in the morning. A very long and careful examination of the head and intestines led to the following general results: — The membranes of the brain were not inflamed. The brain was of its natural shape, but some congestion appeared in the superficial vessels. On cutting into its substance, it is found to be of the natural colour, but the medullary structure in various parts, particularly above the lateral ventricles, was considerably softened, though by no means yet reduced to that pultaceous unorganized mass which is described by some continental pathologists as true ramollissement. The optic thalami on both sides were also softened, but not otherwise diseased; nor was there any thing remarkable on the right side, more than occurred equally on the left, except that the softening was somewhat greater. The ventricles contained a slight effusion. The cerebellum, as well

as other parts of the brain, were healthy. The intestines presented traces of inflammatory suffusion in different degrees; but there was no ulceration, degeneration, or any appearance beyond modification of colour, from the diffused red, to the slate-coloured patches described as indicating a very low degree of inflammation.

Paris, Rue de la Paix, 4,
Feb. 1839.

DIAGNOSIS OF DISEASED VALVES.

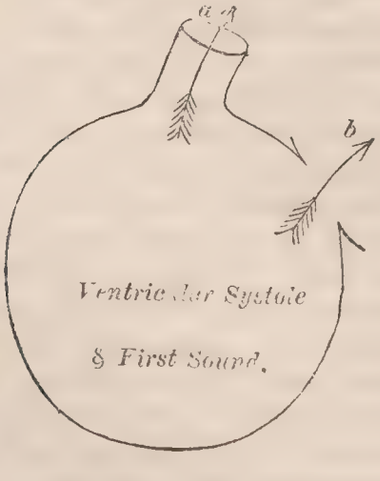
To the Editor of the Medical Gazette.

Sir,

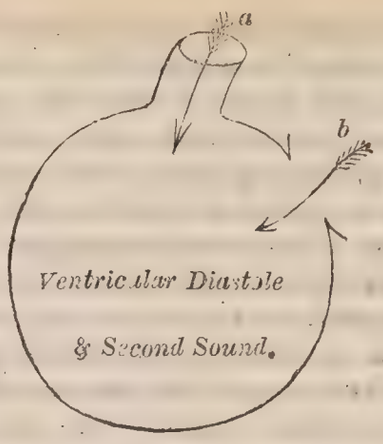
I beg leave to offer you the subjoined diagrams, which, with explanations, render the differential diagnosis of the diseases of the several valves of the heart so simple and obvious, that students are enabled to master the subject in the course of a few minutes.

Each of the four orifices of the heart may, by disease of its valves, be the seat of two murmurs — one from the blood flowing in its natural direction; the other from its flowing retrograde, or by regurgitation, through the permanently open valve. The former murmurs, which may be called *direct*, were discovered by Laennec; the latter, or *regurgitant*, were discovered, in June 1825, by the writer.

They are represented by the two following diagrams, which apply equally to both ventricles.

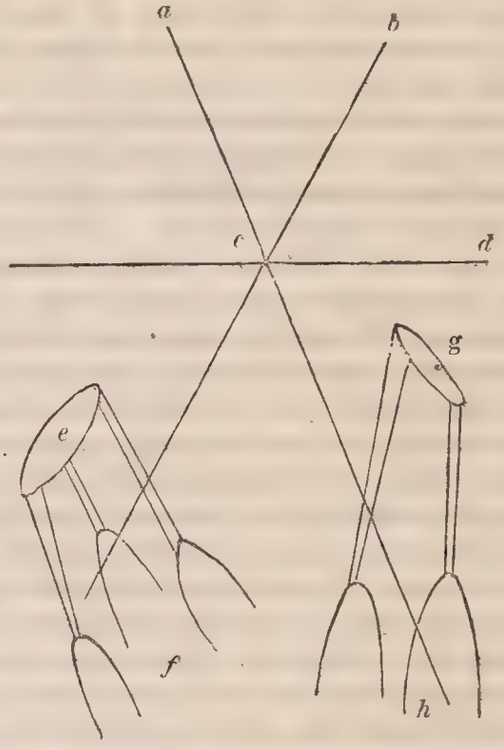


a. *Direct* aortic or pulmonic murmur.
b. *Regurgitant* mitral or tricuspid murmur.



a. *Regurgitant* aortic or pulmonic murmur.
b. *Direct* mitral or tricuspid murmur (extremely rare, often absent, and always feeble).

The following diagram represents the situations in which the murmurs of the respective valves are most audible, and supplies the principal data for the differential diagnosis.



a. About two inches up the aorta.
b. About two inches up the pulmonary artery.
c. Over the two sets of semilunar valves, at the level of—
d. The inferior margin of the third rib, when the patient is horizontal. When he is erect the valves are drawn a little lower down.
e. The right auricular orifice.
f. The right columnæ carneæ.
g. The left auricular orifice.
h. The left columnæ carneæ.

Differential diagnosis.—A murmur at *c*, if distinct at *a*, is aortic; as a pul-

monic murmur is only feebly transmitted in that direction.

A murmur at *c*, if distinct at *b*, is pulmonic; as an aortic murmur is only feebly transmitted in that direction.

A murmur distinct at *a* or *b* is semilunar; as an auricular murmur is inaudible or very feeble so far off.

A murmur with the second sound, loudest at *c*, is from semilunar regurgitation. It is aortic if the murmur is loudest in the direction *a*, *h*, gradually diminishing on descending down the ventricle. It is pulmonic if loudest in the direction *b f*, gradually diminishing on descending down the ventricle.

A murmur loudest at *h* (which is about an inch above where the apex impinges, and a little to the sternal side of the vertical line of the nipple) is mitral; as a tricuspid murmur is comparatively feeble in that situation.

A murmur loudest at *f* (which is about the same level as *h*, but under the edge of the sternum) is tricuspid; as a mitral murmur is comparatively feeble in that situation.

A murmur loudest at *h* or *f* is auricular; as a semilunar murmur is very weak, and sometimes wholly inaudible so far off.

I have for several years employed these diagrams and rules in my lectures; and it was by them that, after an explanation of ten minutes' duration, four students of St. George's Hospital, total strangers to the auscultation of the heart, made the thirteen correct diagnoses out of fifteen, which were published last summer in your valuable journal.

I reserve explanatory details for a future occasion. Meanwhile, as many vague and erroneous notions are abroad respecting valvular diagnosis, I am desirous of offering these simple rules for the use of inexperienced auscultators.—I have the honour to be, sir,

Your most obedient servant,

J. Hope.

13, Lower Seymour Street,
March 7, 1839.

STRYCHNIA IN RETENTION OF URINE.

To the Editor of the Medical Gazette.

Sir,

As the following case, briefly and hastily communicated, tends to illustrate the beneficial effects of strychnia in obstinate retention of urine after parturition, I have taken the liberty to send it to you for insertion in your valuable journal, if it be considered of sufficient importance.—I am, sir,

Your very obedient servant,

Edw. Aug. Cory, M.D. &c.

Cannon Street Road,
March 5, 1839.

Mary Jones, æt. 30, a primaparous patient of the East London Midwifery Institution, was delivered, rather more than a month ago, of a full-grown male infant. The membranes had been prematurely ruptured, in consequence of some sudden mental excitement, and before the commencement of any dilatation of the uterine orifice. The parturient pains, after the lapse of several hours, became marked by a peculiar severity, with no corresponding relaxation on the part of the os uteri, which presented to the "touch" the most obstinate rigidity. Venesection was performed to nearly ʒxx. She was again visited after an interval of 4 hours. There appeared, however, to be no material alteration in the state of the parts, with the exception that the vaginal passage was found to be rather more lubricated with moisture than at the previous visit.

Habeat Antimonii Potassio-tartratis gr. ij. et Aq. Destillat. ʒiss. in Mist. cujus pars quarta quâque semihorâ capiatur.

Warm fomentations were ordered to be assiduously applied to the genital fissure. The bladder and rectum had been freely evacuated. The necessary relaxation of the structures concerned in parturition gradually occurred, and at the termination of an additional eight hours the parturient process was completed. I was requested to revisit her on the expiration or about twelve hours, as she was in great pain, and had passed no urine. The catheter was immediately introduced, and the evacuation of the bladder afforded considerable relief. On the third day after delivery, some symptoms of peritonitis were evident, which, however, were subdued by a strictly antiphlogistic mode of treatment. It will, perhaps, be sufficient to state, that it was found necessary to perform catheterism twice a day for nearly three weeks; and during that period there was not the slightest ability to discharge the urine, although repeated attempts were made to effect so desirable an object. As so long a time had elapsed,

and as there did not appear to be any disposition on the part of the bladder to recover its original tone, I was induced to make trial of the strychnia, from the recorded accounts of its action in paralytic affections. I accordingly prescribed one-sixteenth of a grain of that substance three times a day. I was, I must confess, somewhat surprised to find that my patient, after taking the second dose, was enabled to pass her urine *suâ sponte*, and with ease and comfort to herself. She continued the strychnia, in the above dose, until about a grain of that medicine had been administered. There has been no return of the retention, and she is now completely convalescent. It may possibly be asked by some of the more incredulous portion of the medical community, whether this patient might not have ultimately recovered from the retention of urine without the administration of the strychnia? I can only answer that numerous cases of retention of urine after labour have fallen under my observation, and in which the repeated introduction of the catheter had alone been sufficient to effect a perfect cure; but in no individual instance do I recollect the retention to have continued much beyond a week. I do not believe that in the present example, the bladder would have recovered its contractile power so rapidly, if the strychnia had not been employed, although I candidly think that long-continued catheterism might of itself have eventually contributed to restore that viscus to its wonted tonicity. The frequent introduction of the catheter, however dexterously performed, is naturally repugnant to that innate modesty, which constitutes the brightest gem in the character of Englishwomen, whatever station in society they may be destined to occupy. I have only to add, in conclusion, that the beneficial effects were *post hoc*, and that it may very reasonably be inferred, they were likewise *propter hoc*. I beg leave to disclaim all pretensions to originality in the use of the strychnia in such cases; for Signor Cerchiari some time since communicated to the profession, through the medium of the "Bulletino delle Scienze Mediche di Bologna," some very interesting observations, in which he has forcibly demonstrated the good effects of the nux vomica in incontinence of urine, or inability of the patient to retain that fluid; but he does not appear to have administered it in cases of simple retention. The extract of nux vomica, and not the strychnia, was used by Professor Cerchiari, to whom is decidedly due the merit of having first administered this substance in paralytic affections of the bladder. It may be proper to remark that two additional cases of incontinence of urine, similarly treated by Dr. Cerchiari, have been published in a late number of the Medico-Chirurgical Review.

ANEURISM OF THE ASCENDING AORTA.

To the Editor of the Medical Gazette.

SIR,

I BEG to transmit to you some notes of a case which lately came under my observation, and which, possessing some points of considerable interest, you may probably think worthy of publication.

I am, sir,
Your most obedient servant,
THOS. WATSON, Surgeon.

117, King Street, Glasgow,
Jan. 25, 1839.

On the 28th of December last, I was requested to visit Mr. A. M., a robust man, about 44 years of age. When seen, he complained of, and stated that he had long been subject to, severe dyspnœa, especially oppressive during the night. He was unable to lie on the back, but readily assumed any other position. His breathing was frequent, but neither noisy nor very laborious. He had a troublesome cough, attended with little expectoration. Pulse 100, weak, and soft; bowels constipated for three days. On inspecting the thorax, it appeared more than naturally prominent, particularly on the right side, the girth of which was observed, on careful measurement, to exceed that of the left by 3-8ths of an inch under the clavicle, and a full inch at the lower edge of the pectoralis muscle. On the left side, and over the lateral and posterior walls of the right side of the thorax, the stethoscopic sounds were normal. On the right side anteriorly, the natural resonance on percussion and the respiratory murmur were quite lost. From the third to the eighth rib, on the same side,

and over a corresponding space transversely, the sounds of the heart were heard with great distinctness, and an impulse was communicated, so violent as perceptibly to elevate the observer's head from the chest. So strongly marked were these signs as to convey exactly the same impression as if the stethoscope were placed over the region of the heart. The sounds of this organ were quite natural. No *bruit de soufflet* could be detected in any part of the chest.

After having been somewhat relieved by the exhibition of cathartics and sedatives, the patient became worse, in consequence of exposure out of doors. On the morning of Saturday, the 5th current, while apparently in a deep sleep, he was observed suddenly to throw out his limbs with a convulsive motion, and immediately expired.

Inspection, 27 hours after death.—On opening the chest, a large aneurismal sac was observed lying on the anterior surface of the middle lobe of the right lung, with which it was so intimately connected that the adhesions could not be separated by the knife. On cutting into the pericardium, to which also the tumor adhered, a quantity of serum escaped, and several large coagula were lifted out, indicating an effusion of blood to the amount of 12 or 14 ounces. On further dissection, the aneurism was observed to spring from the ascending aorta, almost immediately below the origin of the coronary arteries. It measured fully 5½ inches in its longer, by 5 inches in its shorter diameter, and had produced death by bursting into the pericardium. On opening the sac, a remarkable mass of coagulum was displayed, occupying the whole of what may be termed the fundus of the tumor, not less than two inches in thickness at the thickest part, and becoming gradually attenuated towards the mouth of the sac, till it seemed to lose itself in its walls. A section being made, it exhibited a very beautifully laminated appearance, the external layers being dense, thin, and tough as leather; those nearer the centre much softer, thicker, and lighter in the colour. Several of the innermost lamiræ were still so soft as to fall away with a touch, but were evidently assuming the organized form. After these were removed, the tumor weighed 15 oz. avoirdupois.

The lungs were considerably gorged with serum, but otherwise healthy. The heart was smaller, and the walls of its cavities thinner than natural. No disease existed in the valves or any other part of this organ.

I regret that the scruples of the patient's friends rendered it impossible to remove the aneurism as a whole. The mass of coagulum alone was with difficulty obtained, on the ground that it was simply a foreign body.

LACERATED WOUND OF THE SCALP.

To the Editor of the Medical Gazette.

SIR,

I FORWARD you the following case for insertion in the columns of your valuable GAZETTE, should you think it will be interesting to your readers.

I am, sir,
Your obedient servant,
GEORGE DOWNS.

Stockport, March 13, 1839.

Mary Richmond, æt. 17, was admitted, on the 25th of June last, in the Stockport Infirmary, under the care of Mr. Flint. Whilst combing her hair in a factory near the machinery, it became entangled with a horizontal shaft which was revolving rapidly. The quick motion of the machinery, opposed to her resistance, completely tore away the scalp from the nose, with the eyebrows, &c. round both ears to the hollow of the neck, two inches below the tuberosity of the occiput. On the right side of the head the pericranium was detached from a portion of the frontal and parietal bones, extending from before backwards, near seven inches in length, and from side to side over the frontal bone three inches, and across the parietal bone one inch. A small circular piece was likewise removed from the crown. Added to which injuries, the thumb of the left hand was taken off by the machinery.

The head was ordered to be enveloped with lint dipped in warm water, and the whole covered with oiled silk. She was also ordered to have an anodyne draught immediately.

26th.—Passed a restless night, and complains of headache, thirst, &c. Pulse 108.

V. S. ad ℥viii., and to take the senna draught until the bowels are moved.

27th.—Bowels acted freely; dozed a little in the night; less confusion in the head.

To have the saline mixture, with Sulph. of Magn. and Antimony, every three or four hours; and to take her Anodyne at bed-time.

28th.—More free from pain or fever. Pulse 98; skin moist. Slept for two or three hours during the night; wound began to discharge, except over the denuded portion of bone, which shews a disposition to exfoliate.

30th.—Going on favourably.

To have full diet, with bottled porter daily.

July 2d.—The coronal suture crossing the portion of denuded bone, as well as the wound itself thickly, covered with granulations.

8th.—Sits up a little every day, and gains strength.

Head to be dressed with simple dressing.

Aug. 4th.—Granulations flabby and smooth, and make but little progress in healing. To be dressed with lint soaked in a weak solution of sulph. of zinc, and covered with oiled silk.

15th.—A portion of the denuded parietal bone has come away, and granulations have sprung up from beneath; cicatrization has advanced over the eyelids, &c., as high as the frontal sinuses, and in a line extending over the middle of the temporal bones to the tubercle of the occiput.

Her health begins to suffer from the continued irritation and discharge, accompanied with cough and hectic fever.

Sept. 10th.—Has had an attack of erythematic erysipelas in the face, which terminated in two or three small subcutaneous abscesses. She was now removed to the workhouse, with apparent benefit to her health, until the beginning of January; when the pectoral symptoms, with hectic and diarrhœa, returned, with ulceration of the cicatrices; under which she gradually sunk, and died on the 18th day of February, 1839.

N.B.—It may be worthy of remark, that although she lived nearly eight months after the receipt of the injury, nature did not seem to show the least disposition to form new skin in the centre of the sore; thus far proving the correctness of Sir Astley Cooper's opinion, that new skin is never formed over an ulcerated surface, but entirely from an elongation and growth of the surrounding old skin.

KLUGE'S TREATMENT OF SYPHILIS.

To the Editor of the Medical Gazette.

Sir,

Observing in Dr. Graves's Lectures, now publishing in the Gazette, allusion made to the non-mercurial treatment of syphilis adopted by Dr. Kluge, of Berlin, and having attended his clinique for some months during the past winter, I am induced to give the following very general account of the treatment which is there pursued.

In every case of primary or of secondary syphilitic affection, Professor Kluge prescribes a quantity of Epsom salts, dissolved in fennel water, sufficient to cause from three to five watery evacuations; and this to be taken every second day during the first week, and every third at a later period. The patient is also usually put on vegetable diet, and kept in a room of moderately warm temperature, and generally confined to bed, especially at first. Local applications are seldom made; and, in gonorrhœa, no local treatment, further than having the parts affected carefully bathed with water, is considered necessary.

In the more obstinate cases of secondary syphilis, instead of salts, the patient takes enough of the decoctum Zittmanni, or of a compound decoction of sarsaparilla (which contains some infusion of senna), to open the bowels two or three times a day. When patients already affected by mercury present themselves, sulphur, or baths of sulphuret of potass, are prescribed as preliminary measures.

The results of this treatment Dr. Kluge regards as very successful. He considers that, under the non-mercurial system, the cures are as rapid as where mercury is used, and that secondary symptoms shew themselves more rarely. In particular, inflammation of the periosteum and venereal nodes, which

were very common indeed while he used mercury, are now scarcely ever seen at the new Charité. It is certainly a curious fact, to whatever circumstance it ought to be ascribed, that such cases scarcely ever present themselves there. Notwithstanding the high opinion of this method as applied to hospital practice, which Dr. Kluge entertains, he thinks it quite unfit for the cases of private patients, as, while under treatment, no one can pursue his usual avocations.

Dr. Kluge has met with few imitators among the practitioners of Berlin; and they seem to consider that mercury affords by far the surest cure.

There are a variety of circumstances which make general returns of the results of any particular mode of treatment not worthy of implicit confidence; and this is particularly the case in the present instance. As to the time in which the cures are effected, it is impossible, from the arrangement of the clinique, for those who attend it to collect any accurate information; and as to the frequency of the appearance of secondary symptoms, it is true, as my friend Dr. Staberoh remarks, that many cases in which secondary symptoms shew themselves, do not return to the syphilitic wards, but are sent to the clinique for the diseases of the skin.

I am, sir,
Your obedient servant,
J. M.

London, March 9, 1839.

ANALYSES AND NOTICES OF BOOKS

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

The Quarantine Laws; their Abuses and Inconsistencies: a Letter addressed to the Right Hon. Sir John Cam Hobhouse, Bart. M.D. President of the Board of Control, &c. &c. &c. By ARTHUR T. HOLROYD, Esq. London, 1839. 8vo. pp. 65.

MR. HOLROYD insists chiefly upon two points. The first is, the non-contagiousness of the plague, to which he has become a convert through a residence of two years in Egypt and Syria, having before been strongly impressed with the opposite belief. He says, "I feel confident if the plague can ever be communicated by contagion, that such communication is extremely rare, and an exception to the general rule."—(P. 64.)

Those of our readers who recollect Dr. Gooch's masterly essay on this subject, will find it difficult to come to a decision on this point, in spite of the evidence adduced on the other side. It must be confessed that the problem is one whose solution is far from easy. How shall we decide whether the plague is contagious, when we are unable to answer the same question concerning typhus fever? Dr. Cleland, of Glasgow, as we saw lately, is of opinion that it is; while Dr. Lombard, of Geneva, cuts the knot by admitting the existence of two kinds of fever in Great Britain. One, he says, like the *fièvre typhöide* of the French, is not contagious; the other, which is brought over by Irish labourers, is decidedly so. Shall we admit two kinds of plague, and thus reconcile the most conflicting evidence?

Dr. Pruner, a German physician at Cairo, believes the plague to be propagated both by contagion and infection, and asserts that "the plague of 1835 was imported in the first instance by the brother of Ciglio, a Maltese physician—transported by him to another brother—by the second brother to a black woman—from her to a Greek neighbour," &c.—(P. 25.)

On the other hand, when asked if he knows of any particular case of the persons round a patient escaping infection, he answers:—

"Yes; a Greek lady, M. B———, who died of the plague, was visited and attended by about forty persons during the attack, without any precaution, and not one of them took the disease. A Jewish lady, who died a few days afterwards of the plague, had been in contact with many persons, who did take the disease."—(P. 25.)

The following question and answer we believe to contain the true explanation of many difficulties in this and other contagious maladies:—

"Do you believe that communication by contact, as in the itch, will produce the disease?—Not always; very seldom, if the contact be slight, and there is no epidemical disposition for the plague."—(P. 25.)

The following evidence tells for the contagionists:—

"88. Were any medical men who had been attending patients suffering from plague attacked with the disease at Cairo?—Yes, two classes of men—old exhausted men, and young men freshly arrived from Europe. Of the old men, Dr. Marrucci and Dr. Dussap. Amongst the young, Dr. Fourcade and Dr. Leopold; and they were almost all attacked after the first visits to plague patients. Dr. Fourcade after the first dissection."—(P. 27.)

On the other hand, Giovanni Garcin, who has been employed in the Lazzaret at Malta for 29 years, and who is now first clerk of the establishment, speaks strongly for the non-contagionists:—

"121. Have you ever known an instance of a guardian employed in handling the baggage or wearing apparel of passengers, or of the crew of a vessel, to have been attacked with the plague?—Never.

122. Have you ever known an instance of the persons employed at the Lazzaret in exposing cotton, wool, feathers, flax, rags, sails, or other susceptible articles from infected places, to have been attacked with the plague whilst so employed—excepting vessels having the plague on board?—Never.

123. Have you ever known an instance of a laundress employed to wash the linen of persons in quarantine, to have been attacked with the plague?—Never.

124. And they handle the dirty linen without any precaution previous to immersing it in water?—Without any precaution.

125. Since the period of your first engagement at the Lazzaret to the year 1832, what do you suppose was the average number of persons performing quarantine annually?—From eight hundred to one thousand persons.

126. Have you ever known of an instance of plague occurring amongst persons placed in quarantine in the Lazzaret—of course excepting those removed from vessels where the plague was raging at the time?—Never."—(P. 43.)

The other topic on which our author argues is the inefficiency of the quarantine; and if inconsistency is inefficiency, he certainly makes out a strong case. Thus, for instance, the quarantine to be performed at Beyroot and Alexandria, towns in which the plague already existed, was longer than at Damascus, which was entirely free from it; and, curiously enough, the Board of Health at Alexandria professes to found its regulations upon those of the quarantine establishments of Europe; though, of course, it ought to set the fashion, rather than follow it. A friend at court, too, can do much in the Mediterranean.

"But this is not the greatest absurdity arising from the establishment of sanatory regulations at Beyrout. The quarantine of seven days at the Pines was not enforced upon all equally, and only a little interest with the authorities was required for avoiding detention. A *teskeré*, or order from the government, procured through the medium of a consulate, was considered equivalent to seven days' purification; and I was informed that the mules and muleteers which brought a noble lord and suite into Beyrout, during the time of the plague, were allowed, after having communicated most completely with the town, to pass the *cordon sanitaire*, the British consul having obtained a *teskeré* for them to proceed without the penalty of undergoing quarantine."—(Pp. 5-6.)

When Dr. Bowring and Clot Bey sailed from Alexandria for Syria, the notification of a case of plague was delayed till their departure, though known three days before, in order that they might leave with clean bills of health; and when our author was in the Lazzaret, at Malta, he could not be allowed a boat, though the children of Reshid Pacha could. Let us hope that such favouritism never prevails in countries washed by the great ocean.

Supposing the plague to be contagious, it is scarcely possible to fix the limits of discreet precautions against its transmission; yet the following anecdote would seem to shew that extreme fear may go beyond every imaginable boundary:—

"In concluding my observations upon Malta, I may mention the following anecdote:—Signor Luigi Casolani was recently put into quarantine in a most amusing but yet ridiculous manner. His boat was at the landing-place of the Lazzaret, and a coat was in it which was in quarantine, and which had not been exposed sufficiently long to be purified. Signor Casolani assisted a lady into the boat, and she unconsciously sat down upon the contaminated coat, and was therefore supposed to be infected, or *contumacious*, according to Lazzaret

phraseology. He then accompanied Sir Wilmot Horton to the same boat, who, while stepping into it, shook hands with the lady with one hand, and with the other shook hands with Signor Casolani, at the same time taking leave of him. But it so happened, that as the lady was already infected, Signor Casolani also became infected, the supposed or pretended infection having from the lady through Sir Wilmot Horton to Casolani with the rapidity of electricity."

On the whole, Mr. Holroyd's pamphlet is the work of a man who is thoroughly in earnest, and though by no means decisive of the point at issue, it will be cited as a credible witness in this important controversy.

MEDICAL GAZETTE.

Saturday, March 16, 1839.

" Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

THE LONDON UNIVERSITY.

THE Committee of the Faculty of Medicine having published another (*their fourth*) report, on the subject of granting degrees in medicine, we proceed, according to custom, to comment on it. The greater part of it, however, so nearly resembles that which was issued last autumn, and published in our number for October 27th, that we need merely to mention the chief points of difference between them.

In the examination in arts for medical students, some important reductions have been made, and among them that of the fee, which is decreased from five pounds to two. In classics, the Greek language is made optional; and the particular periods of history which were before specified, and whose misfortune we shewed to be that they exactly excluded all those parts of history in which medicine had any interest, are now exchanged for " Outlines of History and Geography." In mathematics there are omitted, in the present curriculum, the extraction of the square-root, interest, discount and annuities, quadratic equations, the use of logarithms and the simpler parts of mensuration. In natural philosophy, the reductions have been in the same proportion, and include heat, electricity, and magnetism, and astronomy; while, in place of the elements of logic and of moral philosophy, there are introduced the outlines of zoology and botany.

It is evident from all this, that the Medical Faculty have grown wiser of late, and that they have fully admitted the principle of reduction in their demands on the minds of candidates. We only wish that they would let the principle have a fairer and a fuller sway. There is too much evidence in the present work, that the improvements have been stingily and unwillingly granted, and that the advocates for such a reduction as can alone make their plan practicable, have had on each subject a hard fight with those who, perhaps from their monopoly of it, regard it as above all others essential. This we suspect has been especially the case in the elements of physic, whose patron has, we know, great influence in the committee. We would not for an instant deny the value of an extended knowledge of this subject; such, for example, as that possessed by its chief supporter; but we are sure, that all the practical applications of the law of physics are made every day by persons entirely ignorant of their principles, with just as much if not more safety than by those who possess the smattering of the elements which this examination requires; although as it relates to subjects which are not generally taught even in the best schools, an examination even in the elements is an unnecessary and useless demand upon the time of those candidates whom it would be most ad-

visable to attract. A knowledge of sciences collateral to medicine must, to be useful, be both clear and copious; if therefore an extensive knowledge cannot in general be obtained, it would be better to make no demand at all—especially upon such as are only on the threshold of one University, and have others of greater celebrity and more easy access, within their reach.

In the curriculum for the Bachelor of Medicine degree, important and some very prudent alterations have been made. Instead of the laborious and confusing attendance on more than 1500 lectures or their "equivalents," in three years, which the last required, there is only demanded a certificate "of having attended lectures during each of the three first years" (of study at some school in connexion with the University, and *subsequently* to having taken a degree in Arts), "on at least two of the following subjects:—descriptive anatomy, general anatomy and physiology, comparative anatomy, chemistry, materia medica, and pharmacy, general pathology, pathological anatomy, general therapeutics, forensic medicine, hygiene, midwifery, &c, surgery and medicine." Thus the student is *compelled* to attend only six courses of lectures; but the Committee have a strange mode of marring all their good work, for although they allow the pupil to choose the subjects of his lectures, they leave him no choice in his examination, but at some time or other question him as to his knowledge of every one of this long list of arts and sciences. Hence the boon of the new regulations is limited to this, that the pupil may study seven of his subjects as he pleases, by lectures, or by books, or by practice, provided he has attended lectures on the other six. We would not undervalue the luxury of being excused attendance on seven courses of lectures, at whatever price it was granted; but it would have been much better to have removed altogether those on which attendance is now optional, and the separate teaching of most of which is useless for any purpose except to increase the number of professors.

Hospital medical and surgical practice, with clinical lectures on each, are required to have been each attended (separately or together) during eighteen months instead of three years. The study of practical medicine is better defined; it is to be carried on during six months, in institutions in which the senior pupils *take a part* in (not *conduct*, as it was in the last) the treatment of the patients, under the superintendence of the medical officers. The large hospitals of London can now supply candidates for the degree in accordance with this arrangement; but with the last, as we before pointed out, none would have been likely to agree except the University College Hospital, and some Dispensaries.

Practical midwifery, to the extent of having had the management of at least six labours, is added to the present curriculum. We believe we may take the credit of having pointed out its neglect as one of the chief errors of the former schemes.

The total of the fees for the degree of Bachelor of Medicine is reduced from 17*l.* to 12*l.* It is not to be granted till the candidate has passed three examinations, viz. one, a little-go, at the end of his second year's study, in Latin (Celsus) and medical etymology (of all things in the world) anatomy, physiology, chemistry, and materia medica; another at the end of the third year, in general pathology, pathological anatomy, general therapeutics, and hygiene; and his great-go, the last, in midwifery, &c., surgery, and medicine. The principle of repeated examinations is decidedly good, and we have always argued in its favour; but there is this

defect in the plan of the London University, that the practical subjects are dwelt on too little. It is very well, and sounds very finely in an introductory lecture, to talk of the necessity of the practice of medicine and surgery being based on a scientific knowledge of anatomy, pathology, and so on; but in fact and in practice it is not so, and it is absurd to order the examinations of pupils in such a manner as should induce them to neglect the practical and experimental study of their profession during any part of their time. In their two last examinations at least, they should be questioned in the practice of medicine and surgery; for, however true it may be in theory that these sciences will be uncertain till they are built up on physiology, pathology, and some other foundation stones; it is just as certain in practice that all these basements are stumbling blocks, and useless if not mischievous, unless constant and immediate reference be made to their practical applications. We do wish that the one or two practical men who are on the committee would convince the rest how few are the modes of practice at present, which owe their origin or foundation to any thing more scientific than the wisdom of abiding by the results of experience. No doubt the time will arrive when the practice of medicine shall have its foundation more firmly laid on science; but why legislate as if for far distant ages, to the manifest inconvenience of the present, and to the increase of the obstacles which already in more than sufficient numbers oppose the progress of medicine?

The candidate for the full Doctor's degree is required to have been engaged subsequently to taking his Bachelor's degree, for two years in hospital practice, or for five years in the private practice of his profession. He must write and defend a thesis in English or Latin, which (and we are at an utte loss to conceive who could have planned or carried this addition) must "*be printed in octavo, at the expense of the candidate,*" and of which one hundred copies must be delivered to the registrar at least a month before the day of the defence!!

After all this flourish, the fee for this degree is lowered--probably to enable the candidate more easily to bear the expense of printing—from £25 to £10., and then the candidate is to be examined in the elements of intellectual philosophy, logic, and moral philosophy (unless he already possess a degree in arts), and in hygiene, medical statistics, mental diseases, medical practice, and the aphorisms of Hippocrates.

There is much more, relating to the modes of examination, which are in all cases to be both in writing and *vivâ voce*, and in some by practice, which may require some further notice. The present scheme is certainly an improvement upon the previous ones; but, although the fourth, we hope it is not an ultimate plan, for there is still much room for useful alteration. It is with no desire to make an invidious comparison that we recommend to the Committee the scheme lately issued by the College of Physicians—"fas est ab hoste doceri." The measures which the College has published are as prudent as they are liberal and just. They will probably be sufficient to attract all that part of the better class of students who would else have been desirous to obtain degrees at the new University, and who would have been its greatest ornaments—those, we mean, who, educated for general practitioners, find that they have talent sufficient to hazard the more dangerous game of life as physicians. There is in the plan of the College of Physicians that simplicity which is the best earnest of science, and which is the very contrary of the

lengthened and abstruse scheme of the University. Let the latter beware in time; the College has beaten it in the liberality with which it promised to obtain for itself superiority: it will never equal the old Universities in dignity; and unless it endeavours to undersell them both (which seems not unlikely), we can scarcely now imagine the class of medical students to whom its degrees will seem preferable to others of equal or more honour, and of more easy attainment, because dependent more entirely on strictly professional and practical knowledge.

CLINICAL LECTURES ON SURGERY,

Delivered at the Middlesex Hospital,

By Mr. Arnott.

1. *Solid Ovarian Tumor.—Puncture from the Vagina.—Suppuration and Sloughing of the Tumor.—Recovery.*
2. *Cyst in the Nympha.*
3. *Suppurating Cyst in the Nympha.*
4. *Cystic Sarcoma in the Neck of an Infant.*
5. *Serous Cyst in the Mamma of the Male.*

However common tumors connected with the female pelvis may be, it is not often that, from being within that cavity, they so completely interrupt the functions of the viscera contained therein as to force upon us the consideration of immediate interference in the way of operation. From obstructing the progress of labour, this question is occasionally presented to the mind of the accoucheur; and in the 10th vol. of the Transactions of the Medico-Chirurgical Society will be found a paper on the subject of Tumors within the Pelvis, impeding Parturition, by Dr. Merriman, in which he relates five and refers to other cases (in all eighteen), in some of which the tumor was opened instead of perforating the head, or turning; and with a more favourable result.

But in the unimpregnated state, the question very rarely arises; recently, however, we have had an example of it; and to the circumstances of this case, the treatment adopted, its consequences, and ultimate result, I wish now to direct your attention.

Mary Gray, æt. 28, widow and mother of three children, was admitted on Christmas-eve, on account of inability to have a motion or to pass water, but with difficulty. A fortnight previously, when in perfect health, her bowels became obstinately obstructed, and she was suddenly attacked with pains in the back and round the hips, which, from time to time, became much aggravated, recurring in paroxysms like labour-pains. Strong purgatives and forcing medicines were taken without relief. An enema was attempted to be given, but could not be made to pass up; and this leading her medical attendant to institute an examination, the presence of a tumor was detected as the cause of obstruction. She was therefore recommended to come into the hospital. The day before her admission, scanty evacuations had been obtained by castor-oil.

On carrying the finger into the vagina, it was arrested immediately at its entrance by a voluminous swelling, which, placed behind this canal and filling the arch of the pubes, compressed the former against the latter. With difficulty the finger was passed so as to reach the os uteri high up and in front, having its natural characters, and open. The swelling was firm and resisting, of uniform surface, and not painful on pressure. It did not increase in size on the patient's assuming an erect posture, though she now experienced some pains of a dragging kind. Passed into the rectum, the finger directly encountered the same mass, which, projecting in this direction and filling the concavity of the sacrum, compressed the bowel from before backwards. The patient was free from fever, and her countenance was good.

Placed between the rectum and vagina, what was the nature of this swelling? It had none of the characteristics of a hernial tumor; or of a collection of matter formed, as occasionally happens, in the pouch of peritoneum lining the cavity of the pelvis. That it was not a case of retroverted uterus (although the symptoms had shewed themselves suddenly) was proved by the absence of all signs of pregnancy, and by the os uteri being open. That it was dependent on disease of the ovary—the most common cause of unnatural tumors developed in the female pelvis—was rendered probable by the characters of the swelling itself; and this probability was converted almost into certainty by there being felt above the pubes, rising out of the pelvis into the right iliac region, and fixed there, a tense swelling; on grasping which, and applying pressure, a very slight but perceptible impulse was conveyed to the finger placed on the mass presenting in the vagina.

But enlargements of the ovary differ in kind. There was no reason to suppose that the present swelling arose from inflammation of that organ, which is occa-

sionally met with; nor were there any evidences of malignant disease, which is of more frequent occurrence. On the other hand, there was little doubt of its being an instance of that most common form of ovarian tumor, cystic sarcoma. Under this head may be included all those tumors composed of a combination of cysts and solid substance, the cysts containing fluids of various colour and consistence; the solid matter of white colour, generally of irregular fibrous appearance, and having albumen as its principal chemical constituent. The number of cysts differ greatly: sometimes there is but one; there may be several separate cysts; or cysts formed within cysts. The solid substance varies much in quantity, sometimes trifling; at others considerable; forming a large proportion, or constituting almost the entire mass of the tumor. Slow in progress, and usually rising into the abdomen where there is free scope for their enlargement, these tumors for a long time are inconvenient only from their size, and it is not generally until after the lapse of years that they prove fatal by interfering with the functions of the thoracic or abdominal viscera. Little under the influence of internal remedies or external applications, and the evacuation of their contents, where possible, being but a palliative, proposals have at different times been made for their removal by operation. They have been extirpated; thec ontents, where fluid, have been drawn off, the cyst pulled out and cut off; and the cyst itself has been excited to inflame and suppurate, thereby to ensure its destruction. But from the situation of these tumors, from the frequency of adhesions existing between them and the pelvis or adjoining viscera, and from the great hazard of inflammation being propagated to these parts, it may be questioned whether these proceedings are under ordinary circumstances at all justifiable.

In the case of Mary Gray there were circumstances of an unusual kind. The tumor filled and distended the pelvis, interfered with the evacuation of the bowels and bladder; and although the latter might have been obviated by the constant use of the catheter, the former difficulty could not be surmounted, and would have soon probably led to a fatal result.

From its situation there could be no thought of extirpating the tumor: from its tension and resistance there was reason to dread that it was solid; yet in the hope that it might partially at least be composed of fluid, I resolved to puncture it, with a view to immediate relief by the diminution of its size, and in the hope, if solid, that no inflammation would follow. I determined to do this from the vagina instead of the rectum, because the tumor was here most accessible; because, if the puncture did not immediately close, there would be no feculent matter to pass into it and irritate the parts; and because, if inflammation and suppuration of the cyst did ensue, there would be a more ready and dependent opening for its discharge.

Previous to making the puncture I asked Dr. Sweatman to see the case, that I might have the benefit of his opinion. Having examined it, he suggested the propriety, in the first instance, of trying whether the tumor could not be dislodged from the pelvis and carried up into the abdomen. Having placed the patient upon her elbows and knees, Dr. Sweatman, at my request, was so good as to make the attempt, first, by pressure on it from the vagina, and then from the rectum, but unavailingly. He found it, as I had previously, fixed and immoveable. Upon this he immediately coincided in the propriety of the proceeding which I had proposed.

Three days after admission, a trifling evacuation having been obtained from the bowels, a trocar and canula were passed into the tumor, and to the extent of two inches, but without a drop of fluid or even blood following. The instrument seemed to pass through solid substance not very resisting.

At my visit in the evening I found the patient in her usual state, but next morning I learnt that late at night she had had a rigor, followed by pain in the abdomen, for which the house-surgeon applied leeches and fomentations, and ordered castor-oil. There was now tenderness on pressure in the hypogastric region, hot skin, thirst, and frequent pulse. These symptoms became aggravated, the pulse rising to 120, with complete retention of urine, and urgent wish on the part of the patient to have a motion, which she said she felt as if it would relieve and do her good; but which relief did not follow the evacuation when obtained. In addition to the tenderness in the hypogastrium pains in the back were much complained of; and on the fourth day after the puncture these pains became suddenly very severe, recurring in paroxysms at intervals, and with the character of labour pains. These continued for two or three days, then became less frequent, and were always immediately removed by a grain and a half of acetate of morphia taken into the stomach, or sometimes by a pill of three grains of opium and one of acetate of morphia, conveyed up to the os uteri and left there.

At this time, the fourth day, a considerable discharge of brownish fluid took place from the vagina—increased in quan-

tity, became purulent, but still having a sanious appearance; and on making pressure on the ninth day, above the pubes, where the tenderness had decreased, it was made to pour out in quantity from the vagina. The pulse was now 140; the tongue red; the bowels loose, and evacuations very fœtid. Nausea and vomiting supervened.

From the eleventh day, the severity of the symptoms became mitigated. The pulse got less frequent—the catheter was no longer required—the paroxysmal pains disappeared: the tenderness in the hypogastrium and groin, for it had extended across to the left as well as the right, continued; but the tumor on the right side had diminished in size; the purging and other symptoms of irritative fever still existed.

On the twenty-first, the discharge having previously somewhat abated for a few days, there was passed from the vagina a large mass of solid substance, which I here shew you. White, brown, and firm, it is evidently a portion of the tumor, which had sloughed. Next day, on examination, I found that the enlarged aperture in the vagina readily admitted the finger into the interior of the cyst.

From this time the discharge assumed a more favourable appearance, presenting the character of healthy pus. The tumor above the pubes disappeared, and that in the pelvis rapidly decreased in size. The febrile symptoms ultimately abated; the bowels became tranquil; the appetite gradually returned.

On the twenty-eighth day the patient was enabled to sit up for an hour. On the thirty-seventh, when the discharge had entirely ceased, the puncture in the vagina was found so completely closed, that its situation could scarcely be detected, and not a trace of tumor could be distinguished either from the vagina or the rectum.

During the height of the inflammation the thighs had become gradually flexed upon the pelvis, and fixed, so that the patient could not extend them: this was more particularly the case with the left thigh; and when she first got out of bed she was unable to stand erect, the attempt to do so occasioning pain in the groin. Probably this depended on the inflammation having extended to the sheath of, or cellular substance connected with, the psoas muscles.

As regards the treatment of the case, as soon as it was ascertained that the inflammation did not involve the peritoneum, and that that of the cyst had terminated in suppuration, the calomel and opium were discontinued. In order to support the patient's strength, wine was exhibited from the tenth day, with beef-tea and eggs, and meat and poultry as soon as the state of the bowels had improved under small and repeated doses of Dover's powder and hydrargyrum c. creta. The vomiting was was most effectually checked by the hydrocyanic acid.

On reviewing all the circumstances of this case, the principal facts are these:—That a solid ovarian tumor was punctured through the vagina—that this simple injury was followed by inflammation—that this inflammation produced suppuration of the cyst and sloughing of the tumor—and that the case terminated favourably.

It is an important question for us to consider, whether this favourable termination can be fairly attributed to any peculiarity in the treatment. In my estimation, it is mainly owing to the opening having been made through the vagina, and to there having been a dependent, free, and ready passage for the discharge.

The success of a single case, however, does not authorize me to recommend you to assume as a principle of practice the exciting of inflammation in an ovarian tumor by puncture through the vagina, although we may be encouraged by it to adopt this proceeding under similar and urgent circumstances.

Cysts are occasionally developed in the female organs unconnected with the ovary or uterus, and their contents are not always serous fluid. About a year since I was asked to see a patient, in whom a swelling had formed in one of the nymphæ, and had been growing for four years. It was globular, tense, evidently contained fluid, and had no connexion with the uterus. The duplicature of skin or mucous membrane which forms the nympha was divided—the cyst was removed. At the last touch of the knife, the cyst was opened, and the contents so perfectly resembled, in colour and consistence, fluid fæces, that the gentleman whose patient the lady was, in alarm lest I had cut off a piece of bowel, instantly conveyed it to his nose, and the change in the expression of his countenance when he did not recognize the characteristic odour was as sudden as it was amusing.

I am not sure that in the case of Jane Canning, who was admitted into the hospital the 15th January, and was lately discharged, a cyst of the same kind was not the origin of her complaint. This person had for the last twelve months been subject at each menstrual period to a collection of matter forming in the left nympha, which in four or five days broke, and in a few days afterwards the opening closed. A small opening was found on the inner surface of the part, into which, on the probe

being passed, a cavity occupying its whole extent was discovered, but having no communication with the vagina, or with the rectum. On enlarging the opening, the inner surface of the cavity was smooth, like that of serous membrane. This case was treated by injection daily of a solution of sulphate of zinc into the cavity, under which it gradually contracted and became obliterated.

In connexion with the subject of cystic sarcoma, I may advert to two other cases of this disease, which have occurred in the hospital within the last eighteen months, and some you have seen.

In January 1838, Sarah Griffith, an infant of a month old, was brought to me by desire of Dr. Sweatman, with a globular swelling on the posterior part of the left side of the neck, which had been noticed at its birth, and had since enlarged. The swelling was soft, contained fluid, and was translucent, with a hard substance at its base. I punctured it, and gave issue to a quantity of serous fluid, but the solid body at the bottom remained. The child being too young to undergo an operation for the removal of this, it was deferred until May, but the fluid was in the meantime once more evacuated. In doubt as to the nature of the tumor, I determined to lay it freely open (the large cyst and solid growth), and on doing so found the latter composed of a multitude of cysts and fibrous substance, the cysts generally of small size. Some of these cysts contained serous fluid, others matter resembling boiled sago. From the deep attachments of this mass, its complete extirpation could not be effected. I followed it under the sterno-mastoid, the carotid, and behind the pharynx, and then passing a double ligature through its base, I cut off what was beyond this. The child did well, but the ligatures were a source of great annoyance from their not readily separating; the first not for a month, the other not for three; and the child had repeated attacks of erysipelas on the corresponding side of the head. I attribute this delay in the separation of the ligature to the tough nature of the fibrous tissue which formed the connecting medium of the cysts. In another case of this description I would employ a ligature of the finest twine, instead of silk, in the hope that it would rot off at an earlier period.

In August 1837, William Turner, æt. 54, was admitted with ulcer of the leg; and while this was healing he begged me to look at his right breast, in which, immediately under the nipple, was a tumor of considerable size, firm at the base, but raising and distending the skin, which was thin and of a bluish colour from fluid beneath. This swelling had been observed for eight months. I punctured it with a lancet, and evacuated an ounce and a half of transparent serum.

On the following day I found the breast painful, greatly swollen, inflamed, and a number of large veins traversing the neighbouring parts. A free incision was made, so as to expose the whole extent of the cyst, the walls of which, now thickened by inflammation, did not collapse; and at the bottom of it a red tuft, or fungous growth, was discernible, which at the moment gave me a very unfavourable impression as to the real nature of the case. The incision bled freely; leeches were applied round the inflamed parts, under which and the ordinary antiphlogistic treatment the inflammation subsided, suppuration and granulation took place, and the parts healed without leaving a trace of induration or disease.

I allude to these cases in illustration of the occasional seat, the nature, and treatment of cystic sarcoma. The one resembles that of the ovary, where there are a number of cysts with fibrous tissue; in the other, the single cyst was got rid of in the same manner as that in the case of Mary Gray—by inflammation and suppuration being excited in it.

ROYAL INSTITUTION.

March 1, 1839.

RIGHT HON. STURGES BOURNE, CHAIRMAN.

Professor Brande on certain Properties of Steel.

MR. BRANDE delivered, to a very numerous audience, a lecture on the properties of steel, and which was distinguished by his characteristic method and perspicuity. He stated, that in consequence of the present scarcity of wood in these kingdoms, steel was not manufactured from our native irons. The pyrites of this country is reduced with the assistance of a flux in coal fires; but in the north of Germany, in Russia, and in the Scandinavian peninsula, the cheapness of wood fuel enables the Vulcans of those regions to obtain steel in great quantities from a magnetic iron ore abounding in their hills. Mr. Brande stated that the constituents of the ordinary white iron found in the markets were as follows:—

Carbon	2·33
Sulphur	·84
Phosphorus	·70
Manganese.....	a trace.
Iron.....	96·12
	100·00

Grey iron contains the following proportions:—

Carbon	2·45
Sulphur.....	1·62
Phosphorus	·78
Manganese.....	a trace.
Iron...	95·15
	100·00

The relative proportion of carbon to iron in steel is small. Soft cast-steel contains 1-120th of carbon; common cast-steel, 1-100th; the same, harder, 1-90th; the same, too hard for drawing, 1-50th; the white cast-iron, 1-25th; the grey cast-iron, 1-20th; the black cast-iron, 1-15th. This is Mr. Musket's calculation.

When the carbon amounts to 1-60th of the whole mass, the hardness is at the maximum. Thus it appears that steel may be converted into cast-iron by increasing the quantity of carbon. In illustration of this truth the lecturer related the celebrated experiment of Mr. Pepys, which proved the identity of diamond and carbon. Mr. Pepys availed himself of Mr. Children's large battery for the production of the requisite heat. He bent a wire of pure soft iron, so as to form an angle in the middle, in which he divided it longitudinally by a fine saw. In the groove thus formed he placed diamond powder, securing it in its situation by two finer wires laid above and below it, and kept from shifting by another still smaller wire bound firmly and closely round them. All the wires were of pure soft iron, and the part containing the diamond powder was enveloped by thin leaves of talc. Thus arranged, the apparatus was placed in the electrical circuit, where it was kept red-hot for six minutes. On opening the wire the diamond had disappeared. The interior surface of the iron had fused into numerous cavities, notwithstanding the very moderate heat to which it had been exposed; and all that part which had been in contact with the diamond was converted into perfect *blistered steel*. A portion of it being heated red and plunged into water, became so hard as to resist the file, and to scratch glass.

Mr. Brande exhibited the tough fibrous structure of pure iron, and contrasted it with the crystalloid appearance of steel when fractured. The better the steel is, the smaller are the crystalline facettes; and these facettes gradually increase in size as the steel becomes coarser, and degenerates into cast-iron. To illustrate the manufacture of steel Mr. Brande described the process employed by the proprietors of the India-Steel Manufactory, at Vauxhall. It appears that, in our Indian dominions, an iron is now manufactured which exceeds in purity that of Sweden (a fact of immense commercial and even political interest), and which is beginning to be imported into this country for the purpose of forming steel.

This Indian iron is formed into bars of a certain length, and these bars are placed in troughs, separated from each other by laminæ of charcoal, and exposed to an intense heat in a furnace: when drawn out they constitute the *blistered steel*. This product may either, according to the old plan, be converted into *sheer-steel* by being welded together, or, according to the plan invented at Sheffield about fifty years ago, may be cut into fragments and fused at an intense heat, in a crucible, after which it remains in the shape of the *cast-steel*—the most pure form in which it is obtained.

Mr. Brande now explained the various processes by which this invaluable substance is applied to the arts. The property which it possesses of becoming hard or soft, according to the rapidity or slowness with which it is cooled, has of late given rise to its use in the processes of engraving and coining. In the last process, for example, the metal being made soft, the engraver sculptures his design upon the surface of the die. This is then hardened and stamped on a surface of soft steel, which in its turn is hardened, and forms a second die. In this way several dies are formed, and so perfectly does the hardness of these enable them to resist attrition, that one dye has proved sufficient for stamping a million of pieces of money.

Mr. Brande performed several experiments, showing the truth of the facts which he had stated, and further proving in one respect the opposite properties of copper and steel, for the former is rendered plastic by sudden cooling, whilst the latter is rendered hard and brittle.

The most singular property of steel, however, is its relation to the magnetic principle. A piece of iron, by being placed in contact with a magnet, is immediately rendered powerfully magnetic by induction; but the instant that contact is destroyed its magnetic power ceases. It is different with steel; a bar of this substance is rendered very feebly magnetic by induction, but it is permanently so. When

a bar of steel, however, is drawn over the face of a magnet, it becomes powerfully and permanently magnetic; but when this bar of steel thus magnetized is passed back again over the surface of the magnet, it is, as it were, emptied of its contents, and becomes de-magnetized, and loses all its attractive power. These facts were experimentally demonstrated by the lecturer, to the satisfaction of the audience. He concluded his very lucid and interesting discourse with some exceedingly pertinent observations on the almost incalculable importance of this substance in the arts, and even in the commonest concerns of life. IDIOS.

ROYAL MEDICAL AND CHIRURGICAL SOCIEY.

March 12, 1839.

SIR B. BRODIE, BART. PRESIDENT, IN THE CHAIR.

THIS being the first night on which Sir Benjamin Brodie had occupied the chair as president, he took occasion to address a few observations to the meeting. He wished to remark, on undertaking the duties of the office in which the members had done him the honour to place him, that although his various avocations had of late years prevented him from attending the meetings of the Society, he had always, nevertheless, felt a great interest in its welfare. He had ever considered it an honour to have his name associated with those of the numerous individuals distinguished for the professional attainments and general character, who were to be found among its members; and it had afforded him sincere pleasure to watch the progress and success of the Society from its first establishment up to the present time. That success he believed had been rarely paralleled in the history of such institutions — which for the most part flourished for a few years, so long as those by whom they were first established continued to take an active part in their proceedings, after which they either ceased to exist altogether, or languished in a state of comparative inactivity. If he was not greatly mistaken, the period during which those valuable contributions to professional literature, the Memoirs of the French Academy of Surgery, were being collected, did not much exceed forty years; while this Society, although thirty-four or thirty-five years had already elapsed since its establishment, and although more than twenty volumes of Transactions had been published, was still holding on its progress with all the vigour of youth, and presenting a greater promise of usefulness to the profession and to the public than at any former period of its existence.

There were two eminent individuals, (Sir Benjamin continued), who might be regarded as the founders of the Society— one, the late Dr. Marcet, had been taken from among them some years ago! The other has retired from the arduous duties of his profession to enjoy his "*otium cum dignitate*," as a country gentleman—but he was still a zealous member of the Society, and "I am happy (said Sir Benjamin) to see him among us this evening*." He was sure that all the members present would join him in sympathizing with the feelings of satisfaction, and he might add of a just pride, which the gentleman alluded to must experience when he looked upon the completion of the good work which he had begun in early life—the excellence of the superstructure being the most convincing proof of the soundness of the foundation he had laid.

Sir Benjamin concluded by observing, that he trusted the members would give him credit for being anxious to promote the interests of the Society, and that while he retained his present office, he should not only be ready to attend to, but feel obliged by, any suggestions as to the manner in which he might make himself most useful to the Society.

Observations on the Nature and Treatment of Nævus. By FREDERICK TYRRELL, Surgeon to St. Thomas's Hospital, and to the London Ophthalmic Hospital.

The author begins by observing, as the result of much experience in the treatment of this disease in the last few years, that of the many plans of treatment which have been suggested by their inventors, none are exclusively applicable to every form of the disease. His object, therefore, in his present communication, is rather to point out the description of case to which each method is adapted, and to indicate the rationale of its action than to offer any new plan of his own. With this view, he considers, first, the nature of the disease; secondly, its varieties, pointing out the seat, the position, the progress, and consequence of each form, if allowed to run its course; thirdly, the different modes of treatment in present use; and fourthly, the proper application of those means. When the disease is purely cutaneous, not extending at all to the subjacent cellular texture, he recommends the forming a belt around its margin, on the sound skin, by means of concentrated nitric acid, and afterwards embuing the surface of the growth with the same liquid—at once, if

* The President alluded to Dr. Yelloly, who was present at the meeting.

small; but if of great extent, by repeated applications made to a small portion at a time. The author holds, however, that the use of escharotic applications should be confined to those cases which are purely cutaneous, since, in those which extend more deeply, the agency of the acid stops short of the deeper-seated part of the tumor; and consequently, when the superficial part separates by the ulcerative process, hæmorrhage may be expected to ensue; for the destruction of the subcutaneous form, as well as of that of a mixed character, he recommends the injection into their substance of stimulating fluids; but he points out a very important preliminary step, which in his opinion will prevent those accidents that have sometimes attended the too wide diffusion of the injected fluid, namely — suppuration, and unsightly puckering of the skin after the cure. This consists in cautiously injecting a small portion of a saturated solution of alum into the surrounding cellular tissue before any thing is done to the nævus itself with the view of producing its consolidation, and thus preventing the extension of the disease by the excitement to be afterwards induced in the tumor by the injection of the stimulating liquid into its own substance, as well as the undue diffusion of the fluid. Cases are detailed of the successful employment of this practice. The author speaks highly of the ligature as a means of removing a great variety of forms of nævus, but expressed his fear that setons passed through the substance of the tumors may be productive of hæmorrhage, which in young and delicate subjects would be dangerous.

WESTMINSTER MEDICAL SOCIETY.

March 2d, 1839.

Dr. Chowne, President.

Development of the Vesicula Umbilicalis in the Embryo of six weeks old.—Discussion of the Nature, Sources, and Morbid Effects of Malaria, continued.

Mr. Streeter exhibited a beautiful preparation of an aborted embryo, in which the vesicula umbilicalis was well developed. Mr. Streeter was apparently anxious to test the skill of the members in embryology, for he declined making any communication as to the facts of the case until some of the members should have given their opinions as to the age of the fœtus. None of the members, however, appeared desirous of pronouncing an opinion; but in order to remove the impatience of Mr. Streeter, Dr. Chowne made a conjecture that conception must, at the time of abortion, have occurred about six weeks. Mr. Streeter said, that having taken the pains of preparing the specimen, and bringing it down for the inspection of the Society, he thought he was in courtesy entitled to have an answer to his question. In his opinion the embryo was under eight weeks old, that is, judging from the standard which Soemmering's drawings afforded, and they constituted the only correct standard we possessed. He thought the preparation was most valuable, and almost unique. He did not think there was such another preparation extant in these kingdoms; at least he did not know where to find such. The vesicula umbilicalis, with its duct, was in this embryo remarkably distinct. It was this fact, demonstrable at so early an age, which rendered the preparation so valuable. He believed that Albinus was the first who delineated the vesicula umbilicalis, but he was ignorant of its true nature. Dr. Hunter was, however, manifestly acquainted with it, although his museum and that of his brother afforded no examples of it. The mother, who was well known to Mr. Streeter, enjoyed very excellent health, but having, on a particular occasion, danced unremittingly for a whole night, she miscarried on the following day. It was reasonable to suppose that in this instance the ovum was normal, for there was no appearance of disease previous to the violent exertion of the mother, and it was presumable that the irritation of the uterus alone was the cause of the expulsion.

Mr. Gregory Smith could not think with Mr. Streeter, that the appearance of the embryo on the table was so very rare; he had at least a dozen preparations in his possession, showing the vesicula umbilicalis as distinctly as Mr. Streeter's. He had received an expelled ovum, about six weeks old, that very morning, and would be happy to dissect it with Mr. Streeter. In the majority of cases of abortion, there was something abnormal in the condition of the embryo, which acted as a cause of the expulsion, and which vitiated any conclusion drawn from a study of these objects, as to the development of the healthy ovum.

Mr. Streeter confessed that it was difficult to meet with an instance of a healthy ovum aborted, but if any ova could be considered normal, he was of opinion that the one now displayed by him possessed that character. His attention had for a long while been directed to embryology,

for he was engaged in collecting a series of brains of the embryo from the earliest period of development, for the purpose of illustrating the principles of phrenology.

Mr. Busbell stated that he had carefully examined Mr. Streeter's preparation, and he was of opinion that the vesicula umbilicalis was more loosely attached than it ordinarily is. In all the instances that he had witnessed, the vesicle was bound down by membrane much more closely to the abdomen than was evident in this case.

Mr. Smith having sent for his preparations, eight or nine embryos of different ages were exhibited, and the relations of the umbilical vesicles with the alantois and amnion were well shewn in them.

The President now called upon Dr. A. T. Thomson, the adjourner of the discussion on the operation of Malaria, to address the Society.

Dr. A. T. Thomson stated, that his unrelaxed occupations during the previous week had prevented him from making, as he had intended, any preparation for that evening's discussion: he consequently confined himself to a recapitulation of his statements made on the previous evening. He related the particulars of his experiment with the dog more fully and clearly. The dog (an animal having no transpiration by the skin) was placed in a bag filled with a mixture of hydrogen and sulphuretted hydrogen gas, the head being out; and death speedily occurred, from the sedative action of the gas upon the nerves of the skin. He had no doubt that in all cases of malaria, the deleterious principle existed in the form of gas, though the exact nature of that gas might not be known. Dr. M'Culloch, whose work was the most recent on the subject, argued that the malarious poison could not be carburetted hydrogen, because the effect of that gas would be to destroy life by asphyxia, and not to engender febrile affections. He (Dr. A. T. T.) did not see the cogency of this argument, for it did not at all follow that because these gases in large quantities produced sudden death, they might not produce diseases of a more or less severe character, in minute portions, diffused through the atmosphere. After repeating all that he had said on the former occsaion, Dr. Thomson concluded by saying that he expected much instruction from the continuance of the discussion.

Mr. Verrall said that for thirty years he had great opportunities of witnessing the course of remittent, intermittent, and continued fevers; and he was of opinion that the gas or poison was very different in each of these diseases. He found that at one time one type generally prevailed. Thus, one season would be fruitful in ague; another in bilious fever; another in typhus. The season had also much influence in modifying the nature of the poison engendered in exhalation; the malaria was, in his opinion, not one poison, but many poisons.

Dr. Stone stated that the late Dr. Fletcher, of Leith, promulgated an ingenious theory respecting the nature of malaria. It was the opinion of that physician that the miasma was produced by a diseased secretion in the plants of a marshy soil, and which was diffused in the atmosphere, and became injurious to animal life. This opinion became probable, when it was recollected that fevers were often induced in localities where no putrid or dead, but plenty of living vegetables existed. He (Dr. Stone) thought that in many instances severe fevers were produced without the agency of any malaria whatever. Exposure to cold, deficient food, and the depressing passions excited by such destitution, constituted potent causes of febrile maladies. The fever which broke out in the Anglo-Spanish legion arose from these causes. He had had the medical charge of the hospital station at Santander. In no district was the fever more severe or more fatal to the soldiers, who were exposed to the most dreadful sufferings, through the bad faith of the Spanish authorities. The Spanish inhabitants of Santander, who were surrounded with comforts, but who, if there were any malaria, must have been equally exposed to it with the soldiery, were perfectly exempt from fever. Not a case occurred amongst them. The sailors of Lord John Hay, who were on board the ships which rode in the harbour, and were well taken care of, were unaffected by the disease. From these facts, it would appear that malaria was not indispensable in the production of fever.

Dr. Golding Bird was rather surprised to hear Dr. A. T. Thomson advocate the doctrine that hydrogen was the cause of the deleterious action of malaria, especially as he did not advance a tittle of evidence in support of his views. The presence of ammonia in the atmosphere was no proof of the existence of an unusual quantity of that gas, for hydrogen as well as nitrogen was extricated by the decomposition of animal matter, and constantly contributed to the formation of ammonia, as might be proved in any butcher's, or fishmonger's, or cheesemonger's shop. There was no evidence to shew that carburetted hydrogen gas constituted the active principle of malaria, though it was probable it was in some way connected with it. Eight or

nine years ago, he (Dr. B.) had been engaged with some friends in collecting marsh gas in the neighbourhood of Woolwich. By stirring the pools in some of the adjacent quagmires, a vast quantity of this gas was procured, and its nature proved by inflaming it. On one occasion he had stirred up a large quantity, endued with the most offensive smell. It produced nausea in his stomach. In the course of the next day he was attacked with an intermittent fever. From this fact he was led to infer, that something held in solution by carburetted hydrogen gas was the essence of malaria. That carburetted hydrogen gas was not itself a cause of fever he had an opportunity of proving the previous summer, whilst on a visit to Fife. The whole coast of that county, from Dysart to Dundee, is exposed to the exhalations of carburetted hydrogen gas, yet cases of fever are extremely rare, and ague almost unknown.

He (Dr. B.) also thought that Mr. Verrall's opinion as to the diversity of malarious exhalations was borne out by the fact, that the malaria of towns generally produced continued fevers, whilst that of the country usually occasioned remittent and intermittent types. An event bearing on the point had recently transpired in the county of Norfolk, in one of the low districts. An ague prevailed very generally amongst the population; one spot, however, was perfectly exempt from it, and that included the premises of a feltmonger, where putrid animal exhalations were abundant. Wherever the odour of this putrescence was evident, there was perfect impunity from the influence of ague.

Dr. Fletcher's theory as to malaria being the offspring of vegetable secretion, he thought was overthrown by the fact, that the most virulent malaria prevailed where no living vegetable was to be met with. For example, the neighbourhood of the old river Fleet, or Fleet-ditch, up to Battle-bridge, abounded in fevers, but no living vegetables existed in the vicinity: the putrescent *débris* of animal and vegetable bodies were found in that neighbourhood; quite potent enough causes of even malignant fevers.

A singular statement of Professor Rossi, of Turin, relating to the subject of malaria, and published in a recent number of the *Annali Universali*, was worthy of notice. Professor Rossi was a most respectable man, and worthy of credence. He stated that having procured a quantity of the blood of certain patients who had died of fevers at Naples, he had passed the wires of a galvanic circle through the blood, and placed the poles in distilled water. Decomposition of the water occurred of course, but besides the oxygen and hydrogen, something resembling *cyanogen* was evolved. Whatever it was, it must have travelled through the *interstitia* of the wire. He related the fact, because he considered it interesting, and worthy of further investigation.

Dr. Bureaud differed in opinion with Dr. Addison as to the insalubrity of Pimlico Palace. London had gradually improved in salubrity during the last century, notwithstanding its increasing population.

Dr. A. T. Thomson explained that he had adduced his opinion as to the combination of hydrogen being the cause of malaria merely as a hypothesis. The very much more perceptible odour of ammonia in fogs than on other occasions, combined with the simultaneous levity of the atmosphere, led him to the "conjecture" he had made.

The meeting was then adjourned.

IDIOS.

PHYSICAL SOCIETY, GUY'S HOSPITAL.

Feb. 23, 1839.

JOHN HILTON, Esq. F.R.S. in the Chair.

On the manner in which death is produced by Carbonic Acid Gas.

AFTER the minutes of the meeting had been confirmed, the President read a communication from Mr. Fagg, of Hythe, detailing the case of a mechanic in that neighbourhood, who having lost the three last fingers of the left hand, with their respective metacarpal bones, in consequence of an explosion of gunpowder, had supplied the deficiency by very ingeniously constructing an artificial counterpart of the portion so destroyed, out of alder wood; this he had attached to what remained of the hand and wrist, and had thereby been enabled to perform many manual operations as before, with uncommon dexterity, so as to experience little if any practical inconvenience from his crippled hand, which, both in appearance and in utility, differed scarcely at all from its pristine uninjured condition.

Dr. Golding Bird now proceeded to explain his views on the pathology of death from charcoal vapour, illustrated by experiments. He did not wish to enter at length into the question of the mode in which carbonic acid produces death—whether, as supposed by Brodie, Bichat, Nysten, &c., by excluding oxygen, or, as believed by Christison, Collard, Pyl, &c., by acting as a specific poison—as this would

occupy too much of the Society's time; but, from all the investigations he had made, he was led to agree in every respect with M. Collard de Martigny in believing that carbonic acid, when sufficiently diluted to enter the air-passages, acts as a specific poison, and produces its fatal effects, notwithstanding that sufficient oxygen may be present in the air of the apartment to support animal life *per se*—a statement fully borne out by the very frequent occurrence of florid blood in the hearts, lungs, and brains of persons who have died from inhaling an atmosphere vitiated by carbonic acid gas. This fact, although somewhat opposed to the orthodox and popular opinions as given in most of our works on toxicology, is, nevertheless, fully supported by the cases which have been published in the continental and British journals. The arguments in favour of this view of the specific action of carbonic acid adduced by Dr. Bird were unfortunately too extended to be comprised in our limited space: this we regret the less, as we understand the matter will be fully treated of in the next number of Guy's Hospital Reports.

From a review of cases of death resulting from the inhalation of air contaminated by the presence of carbonic acid, we are compelled to modify the opinions imbibed from the perusal of most toxicological works; for it is no less certain than true that the great majority of the pathological appearances attributed to death by the inhalation of charcoal vapour, are as frequently absent as present. The reason of the diversity observed in the post-mortem appearances of persons killed by apparently one and the same cause, and under circumstances apparently in every way identical, is at present involved in obscurity; much, probably, may depend upon the degree of vitiation of the air of the room; more, perhaps, on the age, health, and temperament of the individual exposed.

Dr. Bird's observations lead him to believe that an atmosphere containing 10 per cent. of carbonic acid will quickly produce death; in birds this occurred after they had respired it from seven to ten minutes, and that the presence of 5 per cent. will prove no less certainly fatal, although requiring a longer time for the production of that effect—in birds about half an hour. A bird of the same size as the above lived an hour and a quarter in a vessel containing the same bulk of atmospheric air, and, upon removal from it, revived completely.

It is difficult, from the imperfect manner in which cases are too generally reported, to represent the comparative frequency of the occurrence of particular post-mortem appearances by numbers; but the following numerical statement, drawn from the best reported cases in the German medical journals, including two from private sources, and of late occurrence, would perhaps be of service to the medical witness, if it did no more than point out to him the fallacies into which he would be likely to be betrayed by trusting to the generally received and popular opinions of the pathological effects which ought to result from the inhalation of carbonic acid:—

External Phenomena.

A.	14 cases examined	Vomiting had preceded death in	5
		Vomiting had not preceded death in	9
B.	12 cases	Face bloated and livid	6
		—— pale and natural	6
C.	11 cases	Froth before mouth and nostrils	5
		—— absent	6
D.	6 cases	Eyes injected	2
		—— natural	4
E.	7 cases	Limbs remarkably rigid	5
		—— flexible	2
F.	14 cases	Abdomen tumid	11
		—— distended	3

Internal Phenomena.—Head.

18 cases		Serous effusion in ventricles and under arachnoid	15
		—— absent	3
18 cases		Extravasation of blood	3
		—— none	15
7 cases		Blood black in the brain	3
		—— florid	4
18 cases		Membranes turgid with blood	14
		—— natural	4

Chest.

7 cases	Mucous membrane of larynx and pharynx injected	4
	——————————————— healthy	3
13 cases	Lungs distended	6
	——collapsed	7
13 cases	——black or deep violet	5
	——red or pale	8
18 cases	Blood only in right ventricle of right	7
	——————— left	1
	—— in both ventricles	8
	—— in neither	2
7 cases	—— in heart black	5
	——————— florid	2
10 cases	——————— coagulated	6
	——————— fluid	4

The only phenomena to which he had found, as yet, no exceptions, are—

A. The presence of livid spots over the whole body; often, however, not more intense than occur from other causes.

B. Tongue exserted and generally grasped between the teeth, unless vomiting has preceded death, when the tongue is found concealed by the teeth.

C. Intensely calm and sleep-like aspect of the corpse, whether pale or bloated.

D. Congestion of the cerebral vessels amounting to apoplexy, often attended by copious serous effusion into the ventricles, under the arachnoid, or at the base.

In conclusion, he offered the following conclusions as fairly deducible from the result of these investigations:—

1. That carbonic acid sufficiently diluted, as in charcoal vapour, does not act fatally by closing the glottis nor by excluding oxygen, but by a specifically poisonous action.

2. That carbonic acid thus diluted may produce death, although a proportion of oxygen, sufficient *per se* to support life, may be present in the air of the apartment; and on this account no dependence can be placed on the florid colour of the blood in the lungs, as evidence against carbonic acid gas having been the cause of death.

3. That such a vitiated atmosphere acts most probably primarily on the nervous system; and secondarily, but by no means essentially or necessarily, upon the circulating fluid.

4. That the death of persons inhaling an atmosphere vitiated by carbonic acid is produced by apoplexy.

5. That no dependence can be placed upon the bloated and red, or pale and contracted features; on the liquidity or coagulated state of the blood; on the injection or paleness of the mucous membrane of the air-passages or intestinal tube, as positive evidence for or against the action of carbonic acid gas as a cause of death, in medico-legal investigations.

A very animated discussion arose upon the several points laid down by Dr. Bird; and arguments and facts were adduced, some in support, others in opposition to his views, by several speakers; and although the majority seemed to coincide with Dr. Bird in opinion, it is fair to state that not a few differed from him, both as regarded the value of his facts, and also his application of them in illustration of the particular points that came under notice.

A unanimous vote of thanks, however, was accorded to Dr. Bird, for his extremely able and interesting communication, and the meeting adjourned.

At next meeting, Mr. Burkitt will read a paper on Fractures.

LIVERPOOL MEDICAL SOCIETY.

February 14th.

Mr. Worthington in the Chair.

Case of Abscess of the Liver—On the modes of opening such collections—On the injurious effects of Ergot.

Dr. Murphy related a case of abscess of the liver, in which the operation of puncturing had been performed. The patient, a gentleman, had suffered from a severe attack of inflammation of the liver, which had been combated by the usual remedies, until the patient found himself so far recovered that he declined further interference on the part of his medical attendant, who, nevertheless, refused to pronounce him out of danger. About three weeks after this period, on making a casual examination, signs of the formation of an abscess were discovered, and the patient becoming alarmed, consented to be again put under treatment. At the end of three months his health was seriously impaired, and alarming symptoms had set in,—night perspirations—quick pulse—loss of appetite—constant pain in the side—sleepless nights—great emaciation and despondency. The abscess made very little progress, but

the fluctuation was quite distinct. Further advice was now sought, and, after great deliberation, it was resolved to insert an exploratory needle, and ascertain how far from the surface the abscess lay. The needle had scarcely entered three-fourths of an inch, when matter escaped along its groove. The patient entreated that it might be opened; which, after another consultation, was agreed to. The arguments for opening it were, the positive assurance of the presence of an abscess—the abscess occupying the right lobe of the liver—the great size it must have attained to have been able to present beneath the margin of the ribs—its not having made any progress to the surface since first detected—the certainty that the whole of the liver must be destroyed if an opening were not speedily made—the probability that adhesion had taken place to the abdominal parietes, and if not that, the chances were, no adhesion had taken place with either the stomach, duodenum, or colon. That if adhesion had not taken place, it must necessarily open into the abdominal cavity—the nearness to the surface it had attained, and the great emaciation of the patient. On these grounds the abscess was opened with a lancet—the patient sitting up in bed: about a pint of unhealthy pus escaped, flowing freely and giving great relief; a small tent was introduced into the aperture. Ten minutes had scarcely elapsed when a severe pain was felt in the lower part of the abdomen. Peritoneal inflammation of a very alarming nature took place, which was treated for the first forty-eight hours almost solely by opium, and on the third morning relays of leeches were applied to the abdomen. The vomiting, hiccough, tympanitis, pain, &c. subsided, and the bowels emptied themselves freely; but a chronic gastritis, to which he had been subject, became acute, from certain articles of diet which he had used, and a new train of symptoms succeeded, under which he sank in a few days.

Dissection.—On removing the integuments from the abdomen, a newly-formed abscess was opened, having the liver for its posterior wall, and the abdominal parietes anteriorly. A large quantity of matter was found in the lumbar region, which had flowed from a rent in the posterior surface of the liver. The viscus itself was reduced to a mere thin bag, scarcely a quarter of an inch thick, except where it touched the diaphragm, where it was 1½ inches in thickness. The peritoneum bore marks of recent inflammation, with large shreds of lymph adherent to the intestines. The opening in the liver made with the lancet was closed by newly-formed lymph, and the inner surface of the stomach was acutely inflamed.

A lengthened discussion took place as to the propriety of having performed the operation of puncture in this case. Mr. Banner contended that such practice was dangerous on account of the difficulty of ascertaining the existence of adhesion between the two layers of peritoneum over the abscess, without which an escape of matter into the cavity of the abdomen would almost certainly take place. He thought the employment of caustic much more safe, as it would ensure the connexion of the external opening with that in the liver, and consequently the escape of the matter externally. A similar opinion was expressed by other members of the Society.

Dr. Duncan mentioned the case of a man who appeared to have received the syphilitic infection from having drawn the milk from one of his wife's nipples, which had been previously sucked by a diseased child. He had examined the man minutely, but could detect no abrasion in the mouth or lips, although he had no doubt the infection had been received through some such abrasion.

Mr. Banner read a paper "On the Injurious Effect of the Secale Cornutum when given for the purpose of increasing the action of the Uterus in cases of Tedious Labour." He was of opinion that the most frequent cause of tedious labour unconnected with mechanical obstruction, is an irregularity in the action of the uterus; and that where the uterine action is increased under such circumstances, there must be a proportionate increase in that irregularity; and although this increased action may expedite delivery, yet it often causes the death of the child by detaching the placenta before birth, or by producing asphyxia. He also considered the exhibition of the secale as a frequent cause of hour-glass contraction and retention of the placenta, and instanced a case in which puerperal convulsions, with retention of the placenta, had been produced by the great irritation and irregularity of action of the uterus after the ergot had been administered. The author related several interesting cases in corroboration of the views he had taken, and concluded by recommending the short forceps as preferable where assistance is required, although not in every case in which the ergot is at present exhibited; for he maintained, that in the great majority of such cases, interference of any kind is unnecessary.

The paper gave rise to some discussion.

The majority of the members present expressed themselves strongly against the indiscriminate use of the ergot; and many cases were brought forward in which it had caused the death of the child, and in others retention of the placenta. The general feeling was, that the ergot of rye is given very much too extensively and injudiciously, and that there are but few cases in which its administration would be justifiable.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN IN LONDON AND ITS VICINITY.

The annual dinner of the members and friends of this Society took place in the Freemasons' Hall, on Saturday, the 2d instant, and was attended by nearly 80 persons. Sir H. Halford, Bart. (President) in the chair.

The President enlarged on the very great advantages held out by this Society, and mentioned a case in which nearly 1000*l.* had been received by the widow of a member, who, for only a few years, had contributed the small sum of 2*l.* 2*s.* per annum. The President then presented the fifteenth donation of ten pounds from Her Royal Highness the Princess Sophia.

Sir Charles M. Clarke, Bart. expressed his astonishment at the indifference and apathy towards this Society, manifested by the profession in general—an indifference to their own interests, for which he was totally unable to account, comparing the smallness of the annual subscription with the very great benefits secured to the families of members in case of distress*.

The acting Treasurer, John Bacot, Esq., called attention to the annual statement of the Society's fund, to the very large sum distributed last year (nearly 1500*l.*), and to the very small balance remaining after providing for the expenses of the present half-year. He then announced the receipt of donations from members and their friends to the amount of 330*l.* 2s.

The Secretary, Mr. Walsh, reported that while the capital stock of the Society is on the increase, the applications for relief are increasing in a much greater proportion, and that the accumulating fund is intended, not for present distribution, but to meet the increased demands which may be expected twenty or thirty years hence. Applications for relief have lately been received from widows of medical men, which could not be attended to, as the husbands of the applicants *were not members of the Society*.

This Society was instituted in the year 1788. The present number of members is 314. The capital is now 33,350*l.* in 3 per cent. consols annuities, and 210*l.* in new 3½ per cents. in the names of the trustees; and 7238*l.* 13s. 11d. in the names of other trustees, for the purpose of accumulation. The sum of 25,372*l.* 10s. has been distributed among persons eligible to receive assistance. Thirty-one widows, several of whom have families, and eight orphans, now receive assistance half-yearly from the funds of the institution.

* It is no less matter of surprise and regret, that any members of the profession whom circumstances have placed above the probability of requiring assistance for their own families, should neglect to avail themselves of the easy and efficient means which this institution affords, for relieving the families of their less fortunate brethren.

OBJECTIONS TO A MEDICAL CORONER.

To the Editor of the Medical Gazette.

Sir,

That the ignorance and incapacity so often manifested in coroners' courts required a remedy, no one will for an instant deny; but that such remedy, upon an enlarged view of the case, will be found in the appointment of a medical coroner, I very much doubt. I even think that the recent success of the medical candidate may be hurtful to the cause of science and good legislation, by inducing many now to remain tranquil—believing that all that is necessary has been done—who would otherwise have bestirred themselves to endeavour really to amend the present state of things.

My opinion is, that in this as well as some other of our institutions, thinking ourselves superior, we prove ourselves inferior to other nations, and that it is but a clumsy and often inefficient instrument for inquiry into the cause of death in suspected cases. To improve it, and render it practically useful, public medical officers should be appointed throughout the country, one of whose principal duties should consist in examining the bodies of those found dead under unusual circumstances. In such cases it should be compulsory to demand the attendance of this functionary, who, having made this examination, anatomical, chemical, &c. &c. as the case might be, would then detail to the

coroner's jury the result of his investigations. Supposing such officers handsomely paid, and that candidates were required to be well educated and strictly examined, the possession of such appointments would become the legitimate object of our profession, which I cannot consider the offices of registrar of births, or of coroner, to be. Officers thus well instructed, and by frequent opportunities well experienced, would then be able by their evidence to advance the rights of science and humanity, and pronounce rational and experienced opinions for the guidance of the jury, whose decisions would then become consistent with common sense and actual fact, which they too frequently are not at present. The attention of these functionaries should be confined to the consideration of these and other branches of medical jurisprudence and police; on which subjects, after a time, they would become valuable referees.

A medical coroner could be no substitute for such an *official witness*. Certainly it would be a valuable addition to the qualifications of a coroner (as it would to any judicial functionary high or low) to possess a knowledge of medical jurisprudence; but if there existed a witness whose competency had been ascertained and admitted, that would be of very secondary importance. Such a witness being provided, no possible necessity could exist for a medical coroner, who has not to give *his* opinion on the cause of death, but merely to place all the evidence fairly before the jury, without bias or prejudice, and elucidating any point not evident to their capacities—often sufficiently obtuse. Any man of ordinary capacity, and acquainted with the laws of evidence, would be competent to this.

But even in the present state of things, is the appointment of medical coroners without its evils? The advocates of such appointments contend that he will be able to direct the jury as to the nature of the medical evidence, its accuracy or its discrepancies—that he will be able to expose the malpraxis, and secure the true interests of the practitioner; in fact, he is to be regarded as a *critic* of the medical evidence offered to the jury. But before we invest him with functions thus important, let us first inquire whether we have any security whatever, in the present state of medical education, that the coroner himself shall be well informed? Is it not notorious, that not one medical man in a hundred, engaged in the daily routine of practice, is capable of conducting an inquiry into the cause of death when difficult questions are involved? and is it after you have added to his usual occupations the onerous duties of coroner, that he is to find time to become a proficient in sciences which require continual practical application for their due comprehension. The matter is serious. Say a well-informed medical witness gives a certain opinion on a case; the coroner, through ignorance, thinks otherwise. Who is to decide? The jury, who, probably composed of tailors, bakers, &c. of course being profoundly ignorant of the matter, will in all probability decide with the coroner, and their decision against the witness's opinion will be regarded by the equally ignorant public as a proof of his incompetency. Then, again, where evidence of the worst character is tendered, it may be received; because the coroner, being equally uninformed with the witness, is incapable of pointing out his errors. Many more cases might be put, but it can require none to shew the impropriety of delegating the power of medical cross-examination to a coroner of whose capabilities no proof is offered.

I repeat, then, I fear the result of the late election will have the effect of drawing off the attention of the profession from a demand which it ought to make—of the appointment of *competent public medical officers;* a demand which the medical philosophers at Exeter Hall would be much better employed in urging, than they are in the consideration of the dreamy speculations and utopian theories in which they have involved themselves.—I am, sir,

Your obedient servant,

JOHN CHATTO.

Leigh Street, Burton Crescent,
Feb. 26, 1839.

P.S.—Since the above was written, I find the following in to-day's *Times*, in an account of an inquest at which Mr. Wakley presided:—

"The coroner said, from his own medical knowledge, he was confident that she had died in the water; but it was possible for persons to be destroyed by other means; and then, to deceive the public, to be thrown into the water. In the present case, however, he was confident the deceased had died in the water, from the froth and mucus emitted from the nostrils upon pressing her chest."

Without discussing the test here applied, I merely quote the case to shew how decidedly the medical coroner places himself before the jury *as a witness*, speaking from his own medical knowledge.

Now, supposing it had been a case in which a medical witness, after due examination of the body, had given an exactly contrary opinion, does any body doubt that the jury would have decided with the coroner, right or wrong. And yet what proof have we of Mr. Wakley's superior

"medical knowledge" in matters of medical jurisprudence?

J. C.

February 28, 1839.

[We have already stated, that under existing circumstances we are in favour of coroners being medical men; but we give insertion to the above on the principle we always act upon—that of letting both sides be heard.—Ed. Gaz.]

DR. ELLIOTSON'S LETTER.

Dr. Elliotson's letter to his pupils, the publication of which we last week alluded to as threatened, has since made its appearance. It certainly is rather a curious production in its way; and the writer speaks his mind very freely regarding some of his quondam friends—more particularly Mr. Wakley. He has directed half the amount of their fees to be returned to all those pupils who apply for it; but we will not anticipate what lack of time and space alike prevents us from giving in detail this week.

BOOKS RECEIVED FOR REVIEW.

Illustrations of Operative Surgery, selected from the best writers, home and foreign, and also from Original Drawings made at the Bedside. No. I., Part I.: Amputations. Foster, Leadenhall Street.

Political Medicine; being the substance of a Discourse lately delivered before the Royal College of Surgeons in Ireland, on Medicine, considered in its relations to Government and Legislation. By H. Maunsell, M.D, one of the Professors in the Royal College of Surgeons in Ireland. Renshaw, Strand.

Illustrations of Cutaneous Disease: a Series of Delineations of the Affections of the Skin in their more interesting and frequent Forms; with a practical Summary of their Symptoms, Diagnosis, and Treatment, including appropriate Formulæ. By Robert Willis, M.D., Author of an English Version of "Rayer on Diseases of the Skin," &c. With Drawings after Nature, and lithographed by Arch. Henning. Fasciculi I. II. and III. Baillière, London and Paris.

COLLEGE OF SURGEONS

GENTLEMEN WHO HAVE RECEIVED THEIR DIPLOMAS.

January, 1839.

Joseph Webb, Ledbury.—F. G. Reid, Whitechapel Road.—T. L. Belcher, Dublin.—G. G. Creighton, Dublin.—George Guy, Southampton.—William Pearson, Hexham.—Henry Wellington, Warwick.—Charles Lodge, Barking.—John Treble, London.—Henry Bishopp, Arundel.—Richard Brown, Wigan.—John C. Hall, London.—Thomas Cocks, St. Thomas's Street.—Josiah Winterbottom, Bolton, Lancashire.—John E. Erickson, London.—James Rutledge, London.—T. H. N. Roskruge, Falmouth.—Arthur Cheyne, Madras.—J. Jeffreys, Cork.—James L. Gilchrist, Newcastle-on-Tyne.—Edward Palmer, Devenport.—John F. Woody, Tamworth.—Frederick Mackenzie, Bedford.—David J. R. Robinson, St. Austel.—William A. Grigg, Newbury, Berks.—Henry N. Pink, Broadwindson, Dorset.—Thos. Plaine, Belfast.—John Bent, Artillery,—F. C. Annesley, Birmingham.—J. H. Brummell, Brighton.—John Acton, Castlebar, Mayo.—Edward R. Lock, Debenham, Suffolk.—Charles Watson, Old Kent Road.—William Hardwicke, Bourne, Lincolnshire.

February.

T. S. Barringer, Newport Pagnell, Berks.—Joseph Travers, Clapham New Park.—James Trotter, Coleford, Gloucestershire.—Stephen Clogg, Linkeard.—H. B. Oakes, Carrick on Shannon.—A. R. Lingard, Heaton-Norris.—R. Welham, Clacton, Essex.—R. M. Ralhill, Aberystwith.—D. O'Callaghan, R.N.—F. J. Alnatt, Brompton Row.—A. P. Leak, Market Drayton.—R. Harper, Wyndham Place, Bryanstone Square.—W. H. Acret, jun. Torrington Square.—J. Watson, Knaresborough.—J. H. C. W. Durham, Camelford.—W. A. Maybury, Little Tower Street.—R. R. Clay, Wandsworth Road.—Benjamin Swift, Dublin.—John Tapson, St. Germaines.—R. H. Cooke, Trinity Square, Tower Hill.—C. Hathaway, Teddington.—Henry Lee, Lock Hospital.—J. Chapman, Tooting.—T. Mitchell, Bedford.—W. E. Wood, Cheltenham.—John Eastwood, Halifax, Yorkshire.—M. D. Fitzgerald, Athlone.—John G. Moyle, Penzance.—Christopher Johnson, Lancaster.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Mar.* 12, 1839.

Abscess	1	Fever, Typhus	1
Age and Debility	20	Heart, diseased	3
Apoplexy	6	Hooping Cough	3
Asthma	4	Inflammation	11
Childbirth	1	Brain	1
Consumption	28	Lungs and Pleura	4
Convulsions	13	Measles	2
Croup	3	Paralysis	2
Dentition	1	Rheumatism	1
Dropsy	5	Small-pox	5
Dropsy in the Brain	4	Unknown Causes	65
Epilepsy	1		
Fever	7	Casualties	5
Fever, Scarlet	4		

Decrease of Burials, as compared with the preceding week . . . 160

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

March.	Thermometer.	Barometer.
Thursday 7	from 23 to 35	29·49 to 29·47
Friday 8	26 37	29·64 29·73
Saturday 9	16 36	29·80 29·88
Sunday 10	15·5 39	30·08 30·12
Monday 11	29 42	30·11 30·08
Tuesday 12	29 42	30·03 30·02
Wednesday 13	34 51	29·98 29·95

Winds, N.E. and S.E.

Except the 8th and following day, generally cloudy; snow on the 7th, and rain on the 12th and following day.

Rain fallen, ·1 of an inch.

Charles Henry Adams.

Wilson & Son, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, MARCH 23, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables,

Diuresis Chylosa.

The next question is—Is there any substitute for mercury in such cases? When we consider the important agencies of bile, both in chylification and in exciting the peristaltic motions of the intestines, we must feel satisfied that a healthy condition of it is of primary importance in a disease in which the function of chylification seems so much depraved. There certainly appears to be remedies which exert some influence upon organs like the liver, and which seem, like mercury, to promote the action of this viscus. To commence, I need only mention chlorine, which seems not only to promote a flow of bile, but also plays a very important part in chymification, or that process which the food undergoes in the stomach. Free or rather simple chlorine has been detected in the gastric juice; and there is not a shadow of doubt that it exists in comparatively large proportion, in combination with hydrogen, under the modification of hydrochloric acid, and that it is poured out abundantly, and contributes materially to the solution of the aliment, and preparing it for conversion into chyme. A solution of chlorine—that is, water impregnated with chlorine, under moderate pressure—is perhaps the best way of administering this agent. I have frequently seen a healthy appearance, and even a moderately relaxed state of bowels, produced by a few doses, in persons whose bowels had been previously constipated for months, and who consequently were forced to the habitual use of purgatives to obtain any thing like an evacuation of the bowels. Of the chlorinated water*, as above, from a wine-glassful to half a pint may be given once, twice, or three times, in the course of the day, according to circumstances.

Colchicum also is a remedy which seems to promote the formation of bile. Dr. Paris states that he has found the extractum colchici aceticum, formerly alluded to, useful in promoting healthy discharges of bile, and that for this purpose he combined it with the potassio-tartrate of antimony and blue pill or calomel. The mercurial, in the present case, ought of course to be omitted.

We might of course substitute the acetum or vinum colchici for the extract, and then it might be given with the solution of chlorine already mentioned. I have seen the best effects result from the exhibition of colchicum, in one or other of the above forms, at the same time with solution of chlorine.

It may, perhaps, at first appear questionable how far colchicum—an acknowledged diuretic—is admissible in a disease in which we are inclined to interdict the use of diuretics, at least the stimulating ones. But colchicum is one of a very different class, and appears rather conventionally than absolutely diuretic. It also appears to act as a sedative—at least, a urinary sedative—and astringent, and therefore, independently of its promoting the action of the liver and a

* I prefer the simple solution of chlorine in water to the chlorinated alkalies; and it should be recollected that hydrochloric acid is apt to be formed from the reaction of the chlorine and water upon each other, therefore it should be used as recently prepared as possible.

flow of bile, seems to be indicated upon its astringent agencies alone.

Taraxacum, as a remedy suitable to many forms of dyspepsia, would seem in some degree to claim attention. It has been supposed also to exert some agency in hepatic obstructions and visceral diseases generally. I need scarcely observe that it may be given in pills formed from the extract, or this may be rubbed down in distilled water, and given in suitable doses at intervals during the day. These plans, however, are but auxiliary, and will only tend to relieve the complications; the disease itself will require special treatment, inasmuch as though it may have originated at first from a depraved action of the chylopoietic viscera, yet as the habit once formed, or diseases once established, become independent of their original causes, so will they require especial treatment.

The remedies, therefore, which come now to be treated of as applicable to the treatment of the disease under consideraderation, are *astringents*. Astringents may be divided into two orders—*mineral* and *vegetable*. The mineral admit of two subdivisions—the *acids* and *metallic* salts. Of the acids, the sulphuric, nitric, hydrochloric, or phosphoric, are the principal. I do not, however, know what are the particular features of the cases to which they are most applicable. In many such cases, lithate of ammonia abounds to a considerable extent in the urine. Here you see an instance of turbid urine, and which but an hour or two since was perfectly transparent, and presented no sensible morbid character. Yet this urine—by the by, passed by a boy—as you see, has allowed the separation of something which was previously held in solution. It may be readily redissolved. If I put a little in this test tube, and heat it, you see it becomes perfectly clear and transparent, and there is now no appearance of turbidity. Now this unquestionably results from suberabundance of the alkaline lithates. But if I continue the heat, you see a curdy coagulum forms, from the coagulation of the albuminous principle. The coagulation also may be effected without heat. I add to a filtered and transparent portion some of this solution of ferrocyanide of potassium,—no effect at present results; but if I add a few drops of an acid—the acetic, for instance—coagulation, as you see, takes place. If I add the acid first, the coagulation is equally suspended, till the agency of the ferrocyanide is added. Thus a slightly acidulous condition of the fibro-albuminous fluid is an essential preliminary to the development of coagulation by the ferrocyanide. The use of the acid, it is said, is to neutralize the soda or free alkali, and which tends to keep the albuminous principle in solution; but this seems somewhat doubtful.

Now in cases where lithate of ammonia is present, I should presume that acids are contra-indicated. This view seems reasonable upon mere chemical principles. If we saturate the solvent principle—the ammonia—of the lithic acid, we should cause its precipitation: hence, if I saturate the ammonia in this specimen by any other acid—the hydrochloric, for instance—the amorphous precipitate will be no longer soluble on raising the temperature, as you here witness. But when there does not appear to be any great redundancy of the lithic acid, or lithate of ammonia, then I believe acids may sometimes be exhibited with advantage.

I have for some time been in the habit of giving the acetate of lead, with excess of acetic acid, and still more lately the nitrate of lead, in some cases of chylous urine; and I must say, I think, frequently with considerable advantage. It certainly has appeared to me in many cases greatly to reduce the quantity of chylous matter in the urine; and in some even this principle has wholly disappeared, or at least could not be detected in the usual way in the urine. How the salt may act I am wholly at a loss to decide; but its astringent agencies were those which first induced me to try its effects. Its powers in controlling hæmorrhage have been long familiar; but as a chylous state of the urine appears to depend upon imperfect chylification, its mode of operation is still a matter for inquiry.

With respect to the forms for administration, enough has been already stated to infer the best suited. Sometimes pills of this mineral may be given composed of the nitrate, in extract of hop, or some vehicle which will not exert any decomposing agency. A very thick syrup appears to me to be as eligible a medium for forming the pill mass as any; for even should they become hard, the fluids in the stomach acting upon and dissolving the sugar, speedily expose the salt, and in the most favourable circumstances to the powers of the stomach.

I have also administered the preparations of iron in this affection, and frequently with benefit; but the inflammatory tendency renders iron less generally suited to chylous urine. When, however, the diathesis will permit, any of the preparations already mentioned may be exhibited. It frequently happens that chyle or albumen is passed with the urine after the termination of scarlet fever. The coagulable principle in some cases more closely resembles chyle, in others albu-

men; and there is generally a bloated appearance, and even dropsical effusions. The two specimens which I now present to you are examples of coagulable urine after scarlatina; for you see by heat they become opaque, and coagulable matter subsides. The patients are two children of the same family; and you perceive in the one a large proportion of lithate of ammonia, whereas the other presents but the slightest appearance of turbidity. The coagulum in the one, you see, is much more dense; in the other, whiter and more curdy. I have prescribed the potassio-tartrate of iron in both cases, which I have often found very efficacious in removing the anasarcous swellings which so frequently supervene the terminations of scarlet fevers.

Of the vegetable astringents, opium stands pre-eminent. Opium is classed among the stimulants, but it locks up all the secretions, except that of the skin. I have often found it very useful in calming the irritability of system which frequently attends some of the forms of chylous urine. When the constitution will permit, we may combine the opium or its active principle with the chalybeate; and in several cases I have seen very great benefit result from the following:—

℞ Tinct. Ferri Sesquichloridi, ʒj.; Acid. Hydrochloric dil. ℥xxx.; Morphiæ Hydrochlor. gr. j.—iij.; Aquæ Destillatæ, ʒvj. M. st. coch. j. amp. ter 4ve in die.

To this, if indicated, a small proportion of the acetum colchici may be added, or the colchicum administered in the form of pills, formed with one of the extracts. These appear to me the principles of treatment which hold out the greatest prospect of success. We may now proceed to examine the next form — the serous.

Diuresis serosa.—It might perhaps be questioned how far the uresis in this affection is entitled to be placed amongst the diseases already commented upon. Generally speaking, in the affections which we have hitherto been considering, the quantity of urine passed in a given time exceeds the healthy standard; but in the instance before us, the quantity not only does not exceed, but often falls greatly short of the natural proportion, and, indeed, in some instances, seems almost wholly suppressed. Serous urine also differs in that it is so often associated, or perhaps still more closely connected, with a very serious form of disease — dropsy. Indeed it has been supposed to constitute a peculiar and distinctive feature between active or inflammatory and passive dropsies. More recently, very respectable authority has connected this condition with disorganization of the kidneys*. Some years ago, I took a great deal of interest in this subject, and examined the urine in a great number of dropsical patients; and, indeed, in many of those in which a serous state of the urine was present, dissection ultimately proved that the kidneys were not in any degree so seriously affected. But still it must be admitted, that in many cases a serous condition of the urine is intimately associated with disorganization of those organs.

The characters of serous urine will, of course, vary with a great variety of concomitant affections, which will influence the general characters of this excretion. Serous or albuminous urine is not necessarily turbid, because the albumen remains in solution under the ordinary circumstances, and the fluid, so far as this principle is concerned, transparent. I here present you a specimen of urine passed by a patient labouring under dropsy. It seems perfectly healthy; but when I heat it, or add a little nitric acid, a coagulum forms, as you see, and precipitates. But urine of this sort may be turbid from the presence of lithate of ammonia. Here you see a specimen from which the lithate of ammonia, an hour or so since in solution, has separated in the insoluble form, but has not yet subsided. Here you see another portion of the same urine, and which has stood many hours, till the lithate has completely subsided and left the supernatant liquor perfectly clear and transparent. The transparent portion poured off and heated, becomes turbid, and a coagulum subsides, as you see.

In some cases, however, the urine is of a very deep colour, depositing, after standing, a reddish-looking sediment, and which consists of the red particles of the blood, or of an intermixture of them. I here shew you a specimen; and you see it presents sensible characters very different from any of the former examples. This urine would be by many termed bloody from mere inspection, nor left ever so long at rest does it attain any thing like transparency. This urine was passed by a female suffering from general dropsy; and no doubt the structure of the kidney is materially affected in the present case, and which, independently of other considerations, might be inferred from the feelings in the loins. In this case the urine is by no means abundant; on the contrary, it is scanty and high coloured, much of which, as you have seen, arises from the colouring matter of the blood.

* Dr. Bright—Christison on the Granular Degeneration of the Kidneys.

The sp. gr. is not very high in such instances, seldom exceeding 1020, but more frequently between 1015 and 1018. Instances perhaps of purely serous urine, as an idiopathic affection, are rare; but this state, connected with peculiar conditions of the system at large, is not unfrequent.

A phlogistic or febrile condition, as also a tendency to local inflammation, is frequently accompanied with serous urine. Thus, it is often found to prevail after scarlatina, measles, small-pox, and even rheumatism and gout, more especially upon the crisis of such fevers. We shall hereafter shew that a frequent crisis of fevers, the lateritious sediment, consists of the alkaline lithates, and hence we can readily understand the connexion of this principle with the urine on the termination of febrile diseases. M. Sohn has shewn that an albuminous state of the urine occurs on the crisis of a great number of acute diseases, and gives a tabular view of the result of his observations, of which the following is an abstract:—

Diseases*.	No. of Cases.	Urine coagulated.	Did not coagulate.	Cured.	Died.
Intermittents	8	7	1	8	0
Typhus	23	19	4	21	2
Measles	7	5	2	7	0
Small-pox	11	8	3	11	0
Scarlatina	23	22	1	23	0
Pleuro-peripneumony	24	22	2	19	5

From these facts, it would appear that albuminous or coagulable urine is not necessarily associated with disorganization; but, on the contrary, it may exist during the prevalence, and frequently supervenes the termination, of inflammatory and febrile diseases of an acute type. Still, however, it must be allowed that it often indicates severe disorganization of the kidneys. When, however, this is the case, so far as I have observed, the urine for the most part contains, along with the coagulable matter, blood, pus, or some other morbid indication of the altered condition of the renal structure.

After what has been said in relation to chylous urine, it will not be necessary to enter at such length upon the subject of the serous state of this fluid. Indeed, when we consider that it prevails as a mere accompaniment of so many and such various diseases, it must be evident that much in the treatment must depend upon the primary affections, of which this may be considered a symptom. From the inflammatory state of the system which generally prevails, antiphlogistic measures are mostly indicated. I have generally observed, however, that mercury in these cases is bad. I have seen several cases of dropsy in which ptyalism, thus excited, was immediately followed by an albuminous state of urine. In my clinical report on Dropsies I mentioned such cases; and among them one of a very fine stout young man, slightly afflicted with anasarca, in whom mercurial salivation was speedily followed by coagulability of the urine, ultimately terminating in death. I would, therefore, in this, as indeed in all cases where there is any tendency to severe disease of the kidney, advise you to be cautious in the use of mercury, which frequently produces very unmanageable results. Hence it is that I generally proscribe mercury altogether in the treatment of scarlatina, measles, and most of the exanthemata; ulcerations, abscesses, and various other disorganization, contrary to what happens in the forms of fever, as I have already explained, resulting from its use.

The treatment, in every other respect, may be conducted much upon the same principles as those laid down for the treatment of the chylous form of disease. Tonics, especially the stimulating ones, and diuretics of a similar class, should be avoided. There is a difference between the treatment of this and the foregoing affection, namely, the former is, for the most part, attended with diuresis; in the present the urine is scanty, as in dropsy. Hence diuretics, which are not called for in the first instance, are frequently necessary here to promote a flow of urine.

Chalybeates, however, may be given, and especially the tincture of sesquichloride of iron, with colchicum, and narcotics, and sedatives, as of opium, hyoscyamus, hops, prussic acid, &c., which, by allaying febrile irritability, prove very often extremely serviceable. When the disease prevails as an independent affection, then, of course, it must be treated according to the features which it presents, and the principles may be readily collected from what has been already advanced.

But as it more frequently happens that this affection is complicated with other important diseases, the treatment of these

* The author does not seem to have distinguished between the chylous and serous conditions of the urine: both are coagulable by heat and by the usual reagents.

necessarily form the most prominent feature in any plan. To enter upon these, of course, would lead us into a very extensive field of inquiry, and compel us to go again over the ground which we have already passed in the former portions of this course. I shall, therefore, conclude this part here, and next proceed to those forms of disease in which urea and sugar form the characteristic principles.

CLINICAL LECTURES ON MEDICINE

Delivered at the Meath Hospital, Dublin,

Session 1837-8,

By Professor Graves.

Lecture XII.

Difference of opinion respecting the use of Mercury in the Venereal Disease.—The question discussed, Is it possible to cure Secondary Symptoms without Mercury?—Chancres.—Abuse of Mercury.—General Treatment of Syphilis.—Other Poisons capable of producing an Eruption similar to Syphilitic.—Concluding remarks: on Chancre; Mode of applying Caustic in Venereal Sores, &c.

In one of my first lectures I stated that, notwithstanding the host of facts bearing on the question of the non-mercurial treatment of primary and secondary syphilis, there is still much difference of opinion amongst men of the highest rank in the profession. One good has resulted from the statements put forward by the army medical practitioners, namely, that mercury is no longer abused in the empirical and barbarous manner followed by our predecessors. Few, if any, at the present day, will be found to enter upon long and exhausting courses of mercury, for slight chancres or sores, in persons of delicate or scrofulous constitutions; and I believe the opinion is growing stronger and more general every day, that when primary symptoms occur, although mercury be omitted, or merely used as an alterative, the disease may be successfully treated. Let me, however, be understood in this matter. I make this statement in reference to those cases only in which the disease is treated from the commencement, and not allowed to go on unchecked for days or even weeks. I have already brought forward evidence to prove, that when genuine chancre is treated properly from the beginning, it may be cured without mercury. There must have been several cases of true chancre among Dr. Roe's patients, and yet of the entire number there was only a single case of secondary venereal, and that in a patient broken down in health and labouring under bubo for a considerable time before admission.

But you will ask—Is it possible to cure secondary symptoms without mercury? If you are to believe some authors you cannot. According to their views of the case, a patient labouring under secondary symptoms, if treated without mercury, may get well for a while, but the disease will return again and again until it breaks up his health. All I can say on the point in question is this, that I have seen several cases which were pronounced secondary syphilis get completely well without mercury. About ten or twelve years ago there was a case of secondary syphilis in this hospital, which I undertook to treat without mercury. It was a case of well-marked papular disease, which had made its appearance about six weeks after the primary sore; and, to remove all doubts on the subject, I showed the man to the late Mr. Hewson—a gentleman justly esteemed for his accurate and extensive knowledge of the venereal disease. He pronounced it at once a case of true syphilis, and added that it could not be cured without mercury. As there was no urgent reason for the exhibition of mercury, I thought the matter worthy of experiment, and treated the man with purgatives and antimonials, followed by vegetable alteratives and nitric acid. I did so, and succeeded in effecting a perfect cure. I kept the man afterwards under surveillance, to see if a relapse would occur. He never had a return of the disease, and Mr. Hewson was quite struck with the result, as he had no conception that the patient could be cured without mercury. Indeed this was the general opinion, the other surgeons of the Meath Hospital, having arrived at the same conclusion. The case made a very strong impression on my mind, and, connected, with others having a similar result, has convinced me, that there is some truth in the statements of those authors who say that syphilis can be cured without the mineral. On the other hand, I must confess that there are some cases which answer the description given by Mr. Colles, and which cannot be cured without bringing the patient under the influence of mercury. Thus, a very fine healthy young man, whom I attended some years ago, put himself under my care for chancre, after having neglected the disease for three weeks or more. Now when a case of this kind, which has been allowed to run on unchecked, comes before you, you should not be too sanguine, or think that your patient will be perfectly safe under the non-mercurial treatment; for where chancres are neglected, secondary symptoms are very apt to occur. I treated him with purgatives, antimonials, rest, and low diet. He had no buboes, and got quickly well; but about five or six weeks afterwards he was seized

with symptoms of fever, accompanied by acute pains of the joints, and two days afterwards got venereal eruption and sore throat. He had in fact all the symptoms of venereal exanthematous fever, and his skin became covered with blotches—the character of which could not be mistaken. They were neither papulæ, pustules, nor tubercles, but true venereal blotches, terminating in scaly scurf. I gave him tartar emetic, followed by vegetable alteratives, and he got better. He continued well for about a fortnight or three weeks, and then another eruption broke out, attended with pains and fever as before. The non-mercurial plan was tried again, and was again followed by the same apparent success; the eruption faded, and and his throat got better. He then took lodgings in the country, for the benefit of change of air, but while there was attacked a third time more severely than before. He had fever, eruption, and sore throat, and, in addition to these, periostitis and nodes; he was also becoming weak and emaciated. Under these circumstances I prescribed calomel and mercurial ointment, until his month became sore. His symptoms all gradually disappeared, and he has had no return of the disease. In this gentleman the greatest attention was paid to diet, confinement to the house, and every circumstance which could favour the success of the non-mercurial plan. The patient's constitution was excellent, and free from any scrofulous taint, and yet the syphilitic poison seemed to be rapidly undermining his strength, and the disease acquired fresh force from time instead of growing less violent; in fact, its progress was so alarming that mercury could be no longer with safety withheld. A very moderate course of mercury, managed so as to keep his mouth tender for six weeks, thoroughly and permanently cured him.

Now to what conclusion does all this lead? simply to this, and I believe it is the conclusion to which all rational men have come, that although there are many cases of syphilis, which can be cured without mercury, there are others in which its employment is indispensable.

In the two cases, which I have just related, the results were very dissimilar. In the first, a case which had been pronounced distinctly venereal by some of our most distinguished surgeons, and not to be cured without mercury, the non-mercurial treatment proved quite efficacious; the man was readily cured, and had no return of his disease. The other case, which you would have regarded as most favourably circumstanced for getting well without mercury, had quite an opposite result; the disease returned again and again, and did not yield completely until the system had been brought under the mercurial influence. Hence you perceive the necessity of avoiding extreme opinions, or coming to any general conclusions as to the treatment of syphilis.

The inferences which my experience has led me to draw on this subject are, that many cases of syphilis—indeed a great majority of cases of primary sores—may be cured without mercury, if treated at once and properly.

After chancres have existed for some time, the chances of secondary symptoms are greatly increased, and mercury in such cases will be often required; but it should be used with caution, and moderately. Were I to speak for myself, I would say, that, as a general rule, I prefer the non-mercurial plan in the treatment of primary chancres, particularly if seen at the commencement, and where they appear in persons of a delicate and scrofulous habit. I think at least you will not be wrong in giving many cases of chancre a trial, and see whether you cure them without mercury. If secondary symptoms appear, you have still a resource in mercury; the patient's constitution is unimpaired, and the disease is still amenable to treatment. If you treat your patient properly, he has many chances in his favour; and if he gets secondary symptoms, mercury will still act favourably on his system. The rational practitioner is neither a mercurialist nor a non-mercurialist; he acts according to the state and peculiar exigencies of each case, and selects his plan of treatment according to the form, condition, and duration of the disease, as well as the constitution of the patient. If the chancres be of a mild, and what may be termed indolent character, the application of nitrate of silver at an early period, combined with rest, low diet, aperients, and, if necessary, vegetable alteratives, will complete the cure. If attended with inflammatory symptoms, a vigorous adoption of the antiphlogistic plan will be indispensable, and the use of caustic applications must be deferred until the symptoms of inflammatory action are abated.

Whenever you get a chancre in its commencing period to treat, try the antiphlogistic and non-mercurial plans, and, if your patient improves, persevere; but, if there be no amendment, you may have recourse to the cautious exhibition of mercury. I say cautious, for in some constitutions you cannot be too careful in the administration of this remedy. The consequences which have followed from the injudicious use of mercury have been often and strongly depicted, but not in colours too strong for truth; the lamentable results which have attended its abuse rank among the greatest opprobia of medicine.

In Johnson's General History of Pyrates

—a most curious book, published in 1725, and from which Sir Walter Scott has borrowed some of his best traits of nautical character—we find a passage proving that the abuses of mercury were great at that period, and that even then facts were not wanting to shew that this mineral was not undispensably necessary for the cure of syphilis. In the following passage I have preserved the spelling of the original. Talking of the Brazils our author remarks,—"The Generallity of both sexes are touched with venereal taints, without so much as one surgeon among them or any one skilled in Physick to cure or palliate the progressive mischief. The only person pretending that way is an Irish *Father* or Priest, whose knowledge is all comprehended in the virtues of two or three simples, and those, with the salubrity of the air and temperance, is what they depend upon for subduing the worst of malignity; and it may not be unworthy to notice, that though few are exempted from the misfortune of a running, eruption or the like, yet I could hear of none precipitated into those deplorable circumstances we see common in unskilful mercurial processes."

Who can read, without shuddering, the long detail of misery inflicted on unfortunate venereal patients in the time of our predecessors? the exhausting salivations — the inveterate nodes—the frightful caries and sloughing—the emaciation—the hectic—the rapid or lingering, but ever fatal phthisis. Hundreds of victims, whose slight primary symptoms might have been successfully treated without a single grain of mercury, have had their constitutions gradually broken down, until at length scrofula became fully developed, and was quickly followed by its attendant, tubercular consumption.

Thanks to the exertions and labours of the army surgeons, we no longer behold the the same indiscriminate exhibition of mercury, or the same wicked tampering with human life. The evils which have flowed from the abuse of mercury are greatly diminished, but still not sufficiently exploded from British practice. Notwithstanding all that has been said and done, a good deal still remains to be accomplished, before the treatment of syphilis can be said to be placed on a solid and rational basis. I am not among those who contend that you should never use mercury. On the contrary, I think there are cases in which you can employ it to great advantage—in fact, where its employment is indispensable. But I would have you always act with caution. In treating cases of primary or secondary symptoms, which have existed for some time, and where the patient has been taking mercury, it is hard to unravel the perplexities which surround the case, and ascertain whether the mercury has been properly administered or not.

Where a patient labouring under syphilis has been salivated without being improved, one of two things must be inferred—either that the mineral has had no effect on the disease, or that it has had an injurious effect on the constitution. The great point to arrive at in the treatment of syphilis is to make the mercury act on the disease, and not on the constitution. This I have often endeavoured to impress on my class. I will venture to say, that I would engage to give a patient labouring under primary symptoms any quantity of mercury, without producing a favourable effect on his disease, or doing him any good: I would engage to salivate a man affected with sore throat, and yet leave him as bad, or even worse, than ever. I have witnessed this occurrence over and over again, and have laid it down to myself as a proposition,—that venereal may be treated with mercury, to the fullest extent, without being cured.

Syphilis and mercury are not like two opposite forces—not like an acid and an alkali—so that by putting them together you are sure to neutralize them. No. It is a melancholy fact, but true, that the constitution may be impregnated with both at the same time. Some time ago, a gentleman's coachman was admitted into Sir Patrick Dun's Hospital. He got primary symptoms, for which he took mercury; but being of active habits, and unwilling to quit his employment, he remained with his master, whom he was frequently obliged to attend at night. In this way, he was often exposed to wet and cold, and used to take whiskey, with a view of protecting himself. The consequence was, that eight weeks afterwards he came into Sir P. Dun's Hospital with his mouth sore and fully salivated, but labouring under bad sore throat and an extensive eruption. In adverting to his case before the class, I said, "This appears to be a very bad specimen of the mercurial treatment, but you are not to conclude from what you see that mercury will not cure the disease. We will keep him in hospital; give him mild aperients, light nutritious diet, and sarsaparilla; and when we have removed the bad effects of mercury on his constitution, we will proceed to administer it again, but in such a way as to act on the disease, and not on his general health." About three or four weeks afterwards, the man was so much improved, that we were able to put him again under a mild course of mercury, and succeeded in eradicating every symptom of disease. Although a patient has got worse under the use of mercury, you should not conclude that it is incapable of curing the disease: it may have been administered improperly; and under

such circumstances, I tell you again, no good can be expected from it. In such cases, the morbid action of mercury must be allowed to pass off completely before we have recourse to the mineral again; and if this be done with circumspection and care, the best and most favourable results may be expected. I agree perfectly with the judicious observations put forward on this subject by Dr. Lendrick, and I would strongly recommend every gentleman present to read his excellent paper, published in the 32d number of the Dublin Medical Journal. As in many acute diseases, particularly those of the class Exanthemata, so in syphilis you may have great variety in the symptoms. Some of them will be faintly shadowed out, or altogether absent; while others may manifest a remarkable prominence. In measles you may have the eruption without the catarrhal symptoms; in scarlatina, the sore throat without the eruption, or, what is still more more curious, the desquamation and dropsy without any apparent preceding symptoms. So also in syphilis, in which you may have chancre without bubo, sore throat without eruption, or periostitis without any well-marked appearance of the symptoms which usually precede it in the order of time. You are not to expect that the disease will always appear in the form laid down by the great John Hunter, or that the symptoms will pursue the precise order marked out by him. As in an acute disease, where not merely a single symptom, but even whole groups of symptoms, may be absent; so in many forms of chronic disease, some of the characteristic marks will be occasionally wanting. There is much variety in forms, intensity, complexion, and duration of chronic diseases, and particularly with regard to those which arise from animal poisons. Scarlatina, typhus, measles, and small-pox, produce very different impressions on different constitutions, operating on some mildly and favourably, on others with extreme intensity. The same variety is seen in the constitutional symptoms produced by syphilis; in some they are slight and chronic, in others acute and violent. In fact, syphilis is so variable a disease, that every reflecting and experienced observer will be led to the conclusion, that it must require a mixed and varied treatment, and that its treatment cannot be based on any general code of laws as laid down by mercurialists or non-mercurialists. By acting in this way, you will avoid both extremes, and pursue a wiser and a better course.

There is another point to which I shall direct your attention before I conclude. It is of great importance in the treatment of venereal affections to bear in mind, that there are other poisons capable of producing an eruption similar to the syphilitic.

In a lecture published last year I endeavoured to shew, that in some deranged states of the constitution, the human body is capable of generating an animal poison within itself, one of the characters of which is a more or less general cutaneous eruption. I have also shewn that deranged local action of a part of the body may be followed by inflammation and the formation of matter capable of infecting the whole constitution. I have more than once, while going round the wards, been struck with the appearance of a sore of this description, and on stripping the patient have found some of Mr. Colles's pustules on the skin.

Some time ago a young man came into this hospital with gonorrhœa and phymosis: he was unable to draw back the prepuce, and the consequence was, that the extensively ulcerated glans lay constantly bathed in gonorrhœal matter. Shortly after admission his skin became covered with an extensive papular or papulo-pustular eruption, which was looked upon by many as true venereal. He also became emaciated, and sore throat, very closely resembling syphilitic sore throat, made its appearance. The prepuce having been divided, he was treated with small doses of arsenic, mild nutritious diet, rest, and lotions of sulphate of zinc, and recovered completely. A case still more curious occurred some time since. A gentleman, one of the pupils, cut his finger while dissecting. The wound was followed some time after by a suppurating tumor resembling a whitlow, which lasted for a long time, and finally generated a poison, which produced sore throat and a cutaneous eruption, the latter of such an obstinate character that, after trying many remedies, he was obliged to have recourse to mercury. These facts, coupled with others of a similar tendency, shew that venereal symptoms present a considerable variety as to their number, order, form, duration, and curability by mercury, consequently it often becomes a matter of difficulty to distinguish the true nature of the disease, and separate it from other influences by which it may be modified. Hence, too, the caution with which we should proceed to subject a patient to a course of mercury.

One word now with respect to the treatment of chancres. I think it is a matter of the utmost importance to the medical man, as well as to the patient that chancres should be seen and treated in the very commencement, that is from two to four or six days after their appearance. Like the effects of many animal poisons, they are at first merely a local disease, and seldom affect the constitution, until they have been for some time in existence. In the begin-

ning they produce local irritation, but if neglected may give rise to constitutional affection. Hence the importance of being treated from the commencement, and to this circumstance I attribute the chief part of the success that attended Dr. Roe's practice, and the rare occurrence of secondary symptoms among the men intrusted to his care. I feel convinced that chancre, if seen shortly after its appearance, may, in eight cases out of ten, be treated safely and successfully without a single grain of mercury.

There are very few animal poisons which may not be arrested and destroyed at the point of inoculation if treated properly. I feel fully convinced, that if you were to take a vaccine vesicle, and destroy it with nitrate of silver shortly after it has made its appearance, the virus would not affect the constitution, and that the child would not be protected from the danger of infection from small-pox. Burn the whole vesicle, it will heal up like up any other part, and the child will not be safe from infection. You may smother the disease while it is merely local, and before the constitution is affected. Such at least appears to be the case with many animal poisons, and in particular with regard to the venereal.

As it is extremely desirable to arrest the local progress of chancre, many methods of accomplishing this object have been devised, among which none appear more certain or efficacious than the application of escharotics. If the disease be detected in its very early stage before the *matrix* pimple has burst, or immediately after that event, the destruction of the local disease proves, in the great majority of cases, a perfect protection against constitutional sequelæ. When the chancrous ulceration has once commenced, and has been allowed to remain unchecked for one, or two, or three days, it is still most desirable to extirpate the local malady, and the result will generally be successful. The chance of protecting the constitution diminishes in proportion as the operation is deferred, but we want data to enable us to calculate at what period it ceases to be at all protective; that period probably varies in different cases.

Be this as it may, it is an essential point in practice to get rid of the primary sore as speedily as possible: how it is best to effect this object is a subject which requires a few remarks. The usual mode of treating small sores, whose diameter does not exceed that of a common stick of lunar caustic, is to apply the latter in substance, so as to produce a small eschar of the required size: this method seldom fails, but is attended with the disadvantage that it often gives rise to sympathetic bubo, as the caustic is not unfrequently used with too little caution. I had accordingly given up the use of the solid caustic, except where the pimple or ulcer is very small, requiring merely a slight touch of the pointed pencil. Many practitioners lean too heavily on the pencil during its application, and keep it too long applied, and consequently the resulting inflammation and eschar are far more considerable than are necessary, and particularly more likely to produce bubo.

When the sore is so large that the diameter of its surface equals or nearly equals a line, it is already too extensive for the application of the solid caustic without incurring the risk of bubo. Under these circumstances, or, *à fortiori*, when the sore is still larger, I use the following method:—provide yourself with a common-sized, nicely-pointed camel's-hair pencil, and a solution of lunar caustic, twenty grains to the ounce. Pour a drop or two of this on the cover of a book, or on the table, and dipping the brush in a basin of water, cleanse the surface of the sore with it. Dry the sore then completely with a piece of lint, and, rinsing the brush, squeeze out the chief part of the water, and, pointing the brush, you may then dip the extreme point of it in the drop of caustic solution, so as to take up the smallest possible quantity of fluid, which you may then apply to the centre of the sore. When it has done acting, we may readily judge, by the appearance of the surface, whether enough has been applied, for the whole surface must be whitened; but it is not, as is usually imagined, proper to burn out the edges. It may be necessary to dip the end of the brush in the solution, and apply it to the sore a second or even a third time, pausing to observe the effects of such application. By proceeding thus, we destroy the diseased surface, and do not produce any inflammation likely to give rise to bubo.

Some practitioners are much bolder, and use the solid caustic much more freely, desiring the patient to keep the part poulticed; but their mode of proceeding is very objectionable. When the solution has been properly and cautiously applied, no dressing to the part is required, except a bit of lint or charpie. In some cases, it is better to use as an escharotic the nitrate of copper, which may be employed in the form of concentrated solution, obtained by allowing the solid salt to deliquesce. Here the camel's-hair pencil and the same precautions are required.

After cauterizing the surface of a chancre, I have frequently applied a little of the fur or felt of hat to the ulcer, and directed the patient not to remove it, if it adhered to the surface, which it will sometimes do, forming a scab that does not drop off until the sore is quite healed. Although we may not have recourse to applications decidedly escharotic (which is the surer way), yet I think the early and diligent use of stimulating lotions

of lead, sulphate of copper, and sulphate of zinc washes, serve to a certain degree to protect the constitution. The fact is, that chancres so treated in the very beginning, and thus altered, and caused to assume a healing process, cease to be so likely to infect the system either of the individual himself, or of females with whom he may have connexion. A similar remark applies to gonorrhœa; an astringent injection, used several times immediately before connexion, will, for the time, so alter the nature of the urethral secretion, that it will cease to be infectious, although it may become so in half an hour or an hour afterwards.

REPORT OF THE SURGICAL CASES AND OPERATIONS

TREATED IN THE MASSACHUSETTS GENERAL HOSPITAL, UNITED STATES,

By George Hayward, M.D.
Surgeon to the Hospital.

(For the London Medical Gazette.)*

Erysipelas.—Only eight cases of this disease occurred in the surgical department of the hospital during the year, and all of them terminated favourably. There has probably not been another year within the last twelve, in which there has not been a death in the hospital from erysipelas. It has been, and still continues to be, a great annoyance. It frequently attacks patients after surgical operations, and those who have suffered from accident, and very often assumes a malignant form.

We are left to conjecture as to its cause. It cannot be from want of cleanliness, for our institution may safely challenge a comparison, in this respect, with any other of the same kind, either in Europe or this country.

It seems, however, to be certain, that the exhalations from the bodies of sick persons, when a number are confined in the same apartment, are capable of producing an atmosphere that will generate the disease, without changing, in the slightest degree, the sensible qualities of the air. I have been led to believe, by observation to some extent on the subject, that this atmosphere was much more readily produced by those patients who had large suppurating surfaces, than by others, who were not affected in this way.

Admitting this to be true, and of its truth I think there can be no doubt, the obvious dictate of common sense is to change the air in the wards of the hospital as often as possible, so as to substitute pure air for that which has been contaminated. This is not so easily effected as at first it might seem to be. It is difficult to do it in the spring and autumn, when the weather is sufficiently mild to enable us to dispense with fires, but at the same time so cool as to require the windows to be closed at night. It is also difficult in winter, without the consumption of a large quantity of fuel, and probably the best ventilator is an old-fashioned open fire-place, but every one knows that it is not the most economical mode of warming a room. There can hardly be a doubt that erysipelas is much more common in those hospitals that are warmed by furnaces, than in those that are not. The fire is usually allowed to go down at night, the ventilator is frequently closed to keep the apartment agreeably warm, and consequently the patients must inhale for several hours the foul air.

This may not be true in all institutions that are warmed in this way; but it certainly was in the Massachusetts General Hospital. A change in this respect was made in the last autumn; the ventilators are now so arranged that they cannot be closed by the patients or nurses; and to render the ventilation more perfect, the upper panels of the doors of each ward, communicating with the entries which are not warmed by artificial heat, were removed, and the holes, thus made, kept open during the winter. Not a death from erysipelas has occurred in the hospital since this change has been made, nor has the disease, during the last year, been of the formidable character which it frequently assumes. More extensive observation, however, is necessary to determine whether this favourable change is owing to the cause to which I have just alluded.

A moist atmosphere is also supposed by some to be favourable to the production of erysipelas. It has been thought to be more common and more malignant in those hospitals in which the floors are frequently washed, than in those in which they are kept clean by dry rubbing. The moisture may have an effect in diffusing the miasmata, and

* We have only been able to make room for certain parts of this paper.—Ed. Gaz.

perhaps rendering them active, when they might have been harmless in a dry atmosphere. The floors of the wards of the Massachusetts General Hospital are daily washed, and the air is often more moist than is agreeable.

There are certainly some facts that favour the opinion that moisture has something to do with the production of this disease, but enough is not yet known on this point to enable us to form a satisfactory opinion on the subject.

It may not be amiss to add, that I have seen nothing to lead to the belief that erysipelas is propagated by contagion. I do not mean to say that it never spreads in this way, but merely that no fact has come under my observation, either in hospital or private practice, that gives the slightest countenance to this notion.

It is well known that great diversity of opinion has existed, and still continues to exist, as to the *treatment* of erysipelas. Two very opposite courses have been adopted, and the advocates of each have claimed a great degree of success for their method. One of these consists in administering tonics, particularly cinchona, in some of its forms, from the very beginning of the attack; and the other, in depletion, treating it as a purely inflammatory affection. It is very questionable whether either of these methods is adapted to a majority of cases. There are but few patients, as far as I have seen, that will be benefited by bark through all the stages of erysipelas; and, on the other hand, though depletion is unquestionably highly useful to some at the onset, there are not many who will not derive advantage from tonics before the termination of the disease. In fact, they may be given with advantage earlier, and to a greater extent, than in almost any other complaint. This is particularly true of the class of subjects that are met with in hospital practice, persons for the most part whose constitutions are impaired or broken down by previous disease or excess.

The sulphate of quinine is perhaps the best prepartion, and the quantity given should not be less than half a drachm in twenty-four hours; in fact, patients are often benefited by a much larger quantity.

When blood-letting is required, topical bleeding is all that I have been in the habit of using, and this I believe is all that is required. I have not resorted to incisions, though they were much recommended at one time, because it is difficult to limit the quantity of blood taken in this way, and because fatal effects have sometimes resulted from them. Punctures made with a lancet in the inflamed part are equally efficacious, and perfectly safe; but there is no objection, that I am aware of, to the application of leeches, and these I employ to a great extent, and apparently in many cases with very great benefit. They should be applied on the sound skin; and it is very unusual for the inflammation to extend beyond the part on which they have been applied. This is certainly remarkable, as leeches are supposed occasionally to prodnce erysipelatous inflammation, especially when applied about the face.

Local bleeding is the only topical remedy that I regard as of much value in the treatment of erysipelas. This opinion may excite surprise. Great confidence is placed by some in mercurial ointment, the nitrate of silver, diluted alcohol, lead-water, and cold lotions, while others prefer warm applications. I must confess that I have not been able to satisfy myself that any one of these has the slighest power of arresting the disease, nor much in mitigating its violence. My practice, therefore, is to use that which is most comfortable to the patient.

The efficacy of local applications in erysipelas has probably been very much overrated. No one places any reliance on them in measles or small-pox, because they are constitutional diseases; and does not the same reason apply with equal force to erysipelas? Local bleeding is undoubtedly in many cases useful, but this cannot be regarded as a topical remedy only.

In severe cases, the disease is usually preceded by a chill, with intense pain in the head and back, and this is followed by great heat. These symptoms, for the most part, occur before any change takes place in the appearance of the skin.

An active emetic, followed by a purgative, and this succeeded by some mild diaphoretic, as the liquid acetate of ammonia, seem to be the only general remedies that are called for in the first few days of the disease. At a very early period, however, quinine and other tonics, with a generous diet, can be given

to advantage, especially to patients of feeble habit of body. Under this course I have often seen the pulse become stronger and less frequent, and the mind lose the wildness which is very apt to attend erysipelas, especially when it attacks the head and face.

A liquid diet, of the mildest possible kind, I believe to be best in the early stages; but if the disease assume a severe form, generous and even stimulating food will be found requisite. Wine, wine whey, wine and water, and malt liquors, are often useful; and in the low forms of the disease, especially in patients with feeble and shattered constitutions, I am confident that I have prescribed alcohol with advantage*.

Fracture of the lower jaw.—Six cases of this accident were admitted into the hospital during the year. Two of them were simple, and four compound fractures; and I should think that this was not far from the usual proportion, judging merely from my own practice. The jaw is covered on the inside with so thin a layer of soft parts, that the injury which is sufficiently violent to cause the fracture, is in many cases powerful enough to lacerate these.

My purpose in noticing these accidents, however, is to speak of a simple mode of treatment, which is applicable to many cases, and which I have frequently found very efficacious. When the bone is not comminuted, and there are teeth on each side of the fracture, the ends of the bone can be kept in exact apposition by passing a silver wire or strong thread around these teeth, and tying it tightly. In several cases of fracture of the jaw, in which the bone was broken in one place only, I have, in the course of the last few years, adopted this practice with entire success, and without the aid of any other means. It will be found very useful, also, as an auxiliary, in more severe cases, in which it may be required to use splints and bandages, or to insert a piece of cork between between the jaws, as recommended by Delpech.

Fractures of the thigh.—When this accident occurs below the middle of the bone, it is usually treated at the hospital by extension and counter-extension. The apparatus used for this purpose is a modification of Desault's, the modification consisting principally in the adaptation of a screw to the cross piece which connects the splints together at the bottom; and to this screw is attached the band or sock which passes around the ankle. By this means the extension is made more in the direction of the axis of the bone than by the original machine, and the fractured surfaces are consequently brought more in contact.

The objections that are often made to this apparatus I have not found to hold good to any extent in practice. It rarely produces much irritation in the perineum: I have never seen ulceration there but once from this cause, and this was in a patient of a peculiarly irritable habit. It is more apt to give trouble about the ankle, on which the extending band is applied, and I have seen the heel ulcerate and slough in a few cases. These ulcers are exceedingly obstinate. Something, no doubt, may be done to prevent them by careful attention; but they will occasionally occur even when the utmost vigilance is employed.

Another inconvenience which sometimes follows the use of this apparatus, is the stiffness of the knee. I have never known this, however, to be permanent; but it often continues several weeks, and is in some instances quite troublesome.

Notwithstanding these objections, I prefer this apparatus to any other that I have ever used for treatment of fractures of the shaft of the thigh-bone below the middle. Fractures of the condyles of course require a different mode. In the great majority of those cases which I have seen treated in this way, there was but little if any shortening, deformity, or lameness, and the patients hardly suffered at all while under treatment.

I am aware that writers urge many other objections to this apparatus, but I feel confident that most of these are theoretical, and are advanced by those who have never given it a trial, or have used it perhaps in cases where the fracture is high up, and in which I have no doubt that other means will be found more useful.

Mr. Amesbury's apparatus for fractures in the lower half of the thigh-bone I have never employed, merely because the one I was accustomed to answered the purpose so well.

It must be admitted, however, that

* I am happy to state that not a case of erysipelas has occurred in the hospital during the last six months.

in fractures of the upper third of the thigh, the modified apparatus of Desault does not do so well as when the bone is broken lower down. This is especially true in fractures of the neck of the bone, either within or exterior to the capsular ligament. Some have supposed that when the fracture is entirely within the ligament, bony union never takes place, whatever treatment may be adopted. But this is not correct, for there are well-authenticated cases to the contrary. It is no doubt difficult to effect bony union in this accident, because the head of the bone, when thus detached, is nourished only by the vessels of the round ligament, and because it is not easy to keep the fractured surfaces in contact and the parts completely at rest. But even ligamentary union will be much more complete if these circumstances are attended to, than if they are neglected; for if the parts are not kept together, the ligament will be much longer than it otherwise would be, and the limb consequently less useful.

When the fracture is high up, there are of course more muscles inserted into the lower fragment, and consequently there is greater danger of displacement, than when the fracture is lower down; and it is also more difficult to confine the pelvic portion of the thigh-bone. Something more than mere extension and counter-extension is frequently necessary to bring the fractured surfaces in apposition under these circumstances; and it is very important that steady pressure should be made so as to keep them in close contact. Every one who is at all familiar with the treatment of fractures knows how great a power pressure exerts in bringing about a bony union.

Now Desault's apparatus is not calculated to make this pressure, and some have thought that in fractures of the neck of the thigh-bone, the inner splint is apt to separate the fragments, by pushing the lower portion outward.

There are other indications which are not perfectly answered by this machine, when the fracture is high up. But it is unnecessary to speak of these, as it is not my object to make a treatise on the subject, but merely to notice an apparatus which, I think, accomplishes the intention of the surgeon more completely than any that I have ever seen: this is Mr. Amesbury's fracture-bed.

Amputation. — Of the seven large limbs that were removed, six were done by the circular operation. This fact is noticed from the circumstance that Mr. Liston has recently seen fit to denounce this operation in unqualified terms, declaring it to be "vile and inadmissible" in all cases where there are two bones in the limb. It is not, perhaps, surprising that an individual should have a decided preference to that particular mode of operating which he has adopted; but it is remarkable that he should give a sweeping condemnation of a method which has the sanction of some of the greatest names in modern surgery. The flap operation is better adapted, no doubt, to some cases than the circular; but there are very many others in which I believe that the latter will be found to be the best. In fact, I must confess that where circumstances will admit of the performance of either, I should operate by the circular incision. It has, to my mind, advantages over the other method that more than counterbalance the greater length of time which is required for its performance. A better stump, it seems to me, is made by it, and the parts heal with quite as much readiness. A patient, from whom I removed the leg above the knee by the circular operation, in June 1837, walked out in sixteen days after the amputation, the wound being entirely healed. An artificial limb was fitted to the stump in a few weeks after, and upon this he has walked with great comfort ever since.

Two of the amputations were performed in consequence of that pecular affection of the knee-joint, so well described by Sir Benjamin Brodie, in which a remarkable change of structure takes place, nearly the whole of the interior of the articulation being converted into a gelatinous mass. The patients were both young men, a little more than twenty years of age, of scrofulous habit. The disease had in each existed several years, increasing gradually, but at no time attended with severe pain. The constitution at length becoming affected, an operation was advised. One of them, whose limb was removed more than a year ago, has since enjoyed uninterrupted health. He recovered rapidly, and is the individual to whom I referred as having walked out so soon after the amputation.

The second patient convalesced more

slowly; the system seemed to suffer much more from the shock of the operation; but in three or four weeks a favourable change took place, and he was discharged from the hospital "well," in forty-four days after the removal of his limb. His health continued good for some months, when the other knee began to be slightly affected, which he at first attributed to fatigue and over exercise. Whether this trouble has assumed the same character as the original disease, and what his present situation is, I am unable to say, as he resides at a distance from the city, and I have not seen him since he left the hospital.

I have noticed these two cases, because it is not long since this peculiar affection of the knee-joint was first described, and because it is not yet well understood. My own experience in relation to it would lead me to believe that it is not so malignant in its character as it has usually been supposed to be, and that if amputation be performed before severe constitutional symptoms appear, the life of the patient will oftentimes be preserved.

Fissure of the rectum.—There is perhaps no surgical operation that affords so much relief as that for fissure of the rectum, and there is hardly any disease that is more painful. It consists in a superficial ulceration of the rectum, sometimes extensive, but more often narrow, and rarely more than an inch in length. It is found more frequently on the sides and posterior part of the gut, than on the anterior. It extends down to the sphincter, and can usually be brought into view, if the patient strains down. When this cannot be done, it can be felt by introducing the finger, though this is attended with great pain.

The greatest suffering is experienced at the time of defecation, and it is then often so severe that the patients are obliged to lie down for some time after. The pain is attributed by Dupuytren to a spasmodic contraction of the sphincter; this seems probable from the relief that the division of the sphincter gives in these cases before the ulcer heals, and from the fact that the same train of symptoms is sometimes met with when no ulceration can be detected. There is reason to think, too, that there is nothing peculiar in the character of the ulcer, as it usually heals so readily after the operation; and this circumstance favours the opinion that it is often the result of mechanical violence, produced sometimes by hardened fæces, and at others by strong efforts made in parturition. It is very certain that it is more frequent in females than in males, and more common in those females who have borne children than in those who have not.

This complaint is aggravated by cathartics, and though anodyne enemata afford some relief, I have not found any thing but the operation sufficient for the cure *. This consists in dividing the sphincter, either by cutting from within outwards, or from without inwards, carrying the incision, if practicable, through the centre of the ulcer. The method from without inwards I should think was to be preferred, as you can in this way, by passing the finger into the rectum and cutting upon it, limit more precisely the incision, than when you cut from within outwards. The dressing and treatment are the same as after the operation for fistula *in ano*.

The patient on whom I operated at the hospital was a healthy man of thirty-seven years of age. The difficulty had existed about four months, and was always greatest when the bowels were constipated. The trouble was steadily increasing; the pain was extreme after every dejection, and his sufferings were so great as to unfit him for his ordinary duties. In all other respects his health was good.

On examination, I found just within the margin of the anus, towards the sacrum, a narrow ulcer, an inch or more in length, quite tender and painful to the touch. The bowels having been emptied by an enema, the operation was performed in the following way:—The fore-finger of the left hand having been introduced into the rectum, a spear-pointed scalpel was thrust in outside of the sphincter, till it reached the point of the finger, thus including the sphincter between the edge of the scalpel and the finger. Both were then simultaneously withdrawn, the scalpel cutting its way out through the fissure. Lint was introduced between the lips of the wound, and a compress and a T bandage completed the dressing. For two or three days he had slight spasms about

* When the ulcer is on the sphincter, or anterior to it, constituting what may be called fissure of the anus, local applications, particularly Dupuytren's belladonna ointment, with rest, may cure it.

the anus, which were relieved by anodyne fomentations. But after this period he had no trouble; his dejections gave him no pain, though the ulcer was not healed, and he was discharged from the hospital "well," in fourteen days after the operation, in all respects able to resume his ordinary avocations.

Prolapsus ani.—When this complaint is in an aggravated form, it is well known that an operation is often performed for its relief. This consists in removing a part of the prolapsed portion, and when cicatrization takes place, the contraction is such that the difficulty is in a great measure obviated. This operation was formerly done either with a knife or scissors, and I should have continued to have used one or the other of these instruments, if I had been guided by my own experience alone. In no case has the use of them in my practice been followed by alarming hæmorrhage, and only in one instance by a serious one.

But with others the result has sometimes been different. There are accounts of severe and even fatal hæmorrhage after this operation with the knife, and a prudent surgeon, therefore, would hardly feel justified in exposing his patient to so much hazard, if any other mode could be devised.

I am satisfied, from several trials, that the operation by the ligature is perfectly safe, equally efficacious, and hardly, if at all, more painful than the old method. The operation can be readily done in the following way:— An enema of warm water should be first administered, and when this comes away the prolapsed portion can usually be thrown exterior to the sphincter. It can then be seized with a double hook, which should be held by an assistant. A needle, armed with a double ligature, should then be passed under the base of the prolapsed portion, the needle cut out, and one string tied firmly in one direction, and the other in the opposite. The part should then be carefully returned within the sphincter, and the ligatures allowed to hang out at the anus. If the pain be severe, an anodyne enema, or an opiate by the mouth, or both, should be administered. The patient should keep in a horizontal position, and live on a mild liquid diet for a few days, and take a gentle laxative on the second day after the operation. The ligatures usually separate in from five to ten days; I have rarely known them to come away sooner than this, and in some cases I have seen them retained much longer.

This operation is the same as the one recommended by the late Dr. Bushe, though I had practised it some time before the publication of his work. It will be found, also, a very safe and effectual mode of removing hemorrhoidal tumors, there being the same objection to the use of the knife in this case as in that of prolapsus. When the tumors are exterior to the sphincter, they may be freely cut off; the hæmorrhage is never troublesome.

It is no unusual thing to find, after the operation for prolapsus and internal hæmorrhoids, that the patient is troubled with stricture of the rectum. This is of course produced by the cicatrization, and is in most cases readily overcome by the use of a rectum bougie. If the patient should continue to use this occasionally for a length of time after the operation for either complaint, there will be much less danger of a return of the difficulty.

Boston, October 1st, 1838.

MEDICAL GAZETTE.

Saturday, March 23, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

QUACK MEDICINES.

In the "Observations on Quackery," to which we referred in our last article but one, Dr. Cowan proposes several most stringent enactments for the suppression of nostrums and charlatans; and it must be confessed that if they had the force of law, and could really be put into execution, quackery would be driven to extremities. The most active nostrum-monger, excluded from the press, chased from his dead walls, and obliged to print his illegal handbills in some "unkent" cellar, would lose heart; and though he might not take up honesty on com-

pulsion, would probably fly to some safer species of fraud.

The first of Dr. Cowan's propositions is, "that all quack advertisements, either through the medium of the newspapers, placards, pamphlets, or other printed channels, be declared illegal, and that both the printer and the author be liable, for each offence, to fine and imprisonment."

We fear that while public opinion remains what it is on this point, it would be in vain to hope for the enactment of such a law, and still vainer to expect that it could be executed. Dr. Cowan observes, that some of the great, the noble, and the learned, are among the blinded abettors of quackery; and we have no doubt that many of these would resist any measure tending to check the diffusion of nostrums, as if it were an attack upon their estates. Nostrums are the foster-children of despair; and when art can do no more, artifice steps in awhile to amuse the patient whom it cannot cure. Moreover, to hope that quack advertisements will be prohibited because they are false and fraudulent, is to presuppose a vast improvement in the tone of public morality. At present, if the most lenient critic were to run his eye over the columns of our newspapers, and strike out all those advertisements which are obviously deceptive, Mr. Spring Rice might quake for the duty. In one of Addison's picturesque dreams, the trash of a library vanished, and many a bulky folio, he assures us, was reduced to the compass of a penny paper; and so, if truth were the test, many a corpulent journal would fall into a marasmus, by the disappearance of money-lenders' offers, and shirts at a shilling a piece, as well as of infallible pills, and cures for freckles and low spirits. The only thing that we know of which must not be advertised are foreign lotteries, and yet they appear under the name of *tirages*; hares were formerly sold in London by the name of lions; and if Dr. Cowan's scheme were adopted, nostrums might be puffed under the appropriate title of *dyes*.

The authors of the Fleet Street pamphlet, which we mentioned in our late article, think that this proposition requires no commentary on their part; if they did indulge in one, they say it would be to express their deep sense of thankfulness, that in this, the 19th century, they "no longer live in the days of Courts of Star Chamber or Inquisitions."

Perhaps a day may come when the nature of our art shall be so generally understood, that the educated and the sensible of all parties will join in throwing the shield of the law over their weaker brethren, and endeavour to protect them from quacks, as they now do from thimble-riggers; but before this happy era can arrive, the great and learned must themselves understand the broad distinction between giving nostrums and prescribing regularly. It is simply this:—The practitioner of physic prescribes not for a single symptom, as a cough, for example, but for a cough modified by twenty accessory circumstances; the charlatan gives his drugs for the cough alone, the accessory symptoms being disregarded. We pass over the claim to infallibility put forward by the man who drugs at random; it is enough for our present argument that the quack prescribes indiscriminately; be the cough recent or chronic, with or without pain, with organic disease or without, the Timbuctoo drops are the certain remedy. Now, though we would not go so far as to say that a quack medicine is in every instance necessarily injurious, or that tincture of squill loses all its virtues by being called the Timbuctoo drops, we would appeal to the great, and still more to the learned, whether this style of

practice does not throw away many chances of success. It is just as if a whist-player were to play his hand without looking at it, and run the risk of making a revoke at every card.

Again, a sore foot, says the surgeon, may be stimulated, or may be soothed, or may be let alone—and that's all; whereas the vender of some herbal ointment can "snatch a grace beyond the reach of art;" his resinous balsam does not trouble itself about languor, inflammation, or what not; it is content with curing every state of every ulcer, and its motto might be,

"Parcere subjectis, et debellare superba."

As long, however, as millions are ignorant of all this, so long will nostrums flourish. Dr. Cowan asks, "How many years or centuries must education prevail before a sufficient elementary knowledge of anatomy, physiology, and of the principles of medicine, shall be obtained by the great mass of the inhabitants of this country?" We can hardly venture to guess; but we think it would not take quite so long to teach our countrymen the difference between prescribing at random and with discrimination—no need, for this, of describing the vertebræ, or explaining how the essence of food finds its way into the blood.

Our author's second proposal is to demand the abolition of the stamp-duty on medicines. As an answer to this, the cerate-mongers of Fleet Street simply refer him to the Chancellor of the Exchequer. Dr. Cowan, however, shows very satisfactorily that the gain to the revenue by quack medicines is less than fifty thousand pounds a year; so that even those who cry out for revenue at any cost, and would coin the blood of the people for drachmas, must be ashamed of the slenderness of the profit, and regret, that though the public is so considerably shorn, so little of the wool comes into the exchequer. We have already said, that on this point we entirely agree with our author. Lotteries, though far more profitable to the state, were given up as being hurtful to the people; and it would be most commendable to renounce, by so small a sacrifice, all participation in a more fatal fraud.

The remaining propositions of our author are:—

Thirdly. "That the sale of all secret medicines (unless sanctioned by a medical jury, and accompanied with statements ratified by the experience of qualified and respectable practitioners) be declared illegal, and the vendors thereof liable to a fine for every offence." And he adds in a note—"The clause between parentheses is introduced to meet the prejudices of some among our rulers who still think that many valuable remedies would be lost to the public were all secret medicines abolished. We think it would be much better to suppress them altogether."

Fourthly. "That all establishments for the practice of medicine or the application of remedial means, unless conducted by properly qualified men, be at once put down, and their originators rendered liable to fine and imprisonment."

Fifthly. "That any individual guilty of practising, or of attempting to practise, without a legal qualification to do so (always excepting cases of gratuitous administration of remedial when medical advice cannot be procured) be, *ipso facto*, liable to punishment; the penalty to increase with each repetition of the offence."

Sixthly. "Let a medical censor be appointed, with all due publicity, in every district of convenient dimensions, whose bounden duty it shall be, either from personal knowledge, or from information received from others, to enforce the penalties attached to the infringement of medical laws."

Seventhly. "Let the penalties be inflicted by the local magistrate; and let the offence be simply grounded upon unqualified practice, to be determined by the plan we have already mentioned."

We are surprised that Dr. Cowan should imagine that such enactments

could have the slightest chance of being carried; for it is quite certain that not ten members could be found to vote for them in either house. It has sometimes happened, indeed, that a triumphant ministry, with an immense majority at its back, has persuaded them, under the influence of a panic terror, to pass measures equally stringent against political liberty; but that such a gagging bill should pass to restrain the license of medical rebels, it would be necessary that our representatives should suffer under the enthusiasm of fear, and dread an Eady as much as a Thistlewood.

We will conclude this subject next week. Meantime we would request our more ardent brethren to reflect, that an extreme zeal against the conventicle, proceeding from those whose fortunes are linked with the establishment, is always liable to misinterpretation; and further, we would ask them what is the tone on the subject of quackery which they find to prevail in non-medical society? Do they hear deep lamentations over the destruction of life by nostrums, and sincere wishes that the *matasanos*, or killers of the healthy, should be put down by all the severity of the law; or do they not rather find the thing talked of as a sort of eccentricity, and a conclusion drawn somewhat in the spirit of the old maxim, *qui vult decipi, decipiatur?*

DR. ELLIOTSON'S LETTER.

Having, on various occasions, expressed ourselves very freely with respect to Dr. Elliotson and his opinions on the subject of mesmerism, we think it but just to let him speak for himself; and we therefore subjoin his address to his late pupils, without curtailment, although it has put us to some inconvenience to make room for so lengthy a document. It is the production of an ingenious man, very vain and very angry, whose judgment, moreover, is manifestly unsound on the subject to which the paper mainly relates—that of animal magnetism. This circumstance is strikingly illustrated by the account of Okey's imagined faculty of seeing figures, "like the representations of death, wrapped in a white robe," sitting by those who are in a dying state. This is attributed to a peculiar effect produced upon her by the emanations arising from the bodies of those whose dissolution is at hand. Now granting, for the sake of argument, that such exhalations (which we all know are often very perceptible in those "hurrying to the grave") are capable of producing the vision in question, what becomes of the fact that of the two patients alluded to *one is yet alive, at the end of more than three months!* It is curious to observe the blindness of Dr. Elliotson to the inference which every unprejudiced man must draw from this circumstance, which, be it observed, we give on the best possible authority in such a case—his own. The Doctor endeavours to get out of the dilemma by informing us that, although the man be not yet dead, the disease "will be, from its nature, necessarily fatal!" On a mind so pre-occupied, neither facts nor reasoning can be expected to have any influence, and it would, therefore, be waste of time to pursue the subject further. It is clear that nothing can exhaust the Doctor's credulity; but we should think *Jack** must, by this time, be very tired of his seat.

To the Gentlemen who composed Dr. Elliotson's late Class of the Practice of Medicine, in University College.

Gentlemen,—When the conduct of the council compelled me abruptly to resign my appointments in the college and hospital, I deeply regretted that prudence forbad me to address you. Satisfied of your unwillingness to lose me, and of your condemnation of the proceedings of my adversaries, I resolved that any demonstration which you might give of your opinions should not arise, either in whole or in part, from any instigation of mine; and I therefore determined, however cold-hearted it might appear, to wait till my successors in the college and hospital had ample time to settle comfortably, if this

* Miss Okey's technical name for the apparition.

were possible, in their new situations; and I may here state that it is perfectly untrue that I have had a party of students at my house any time this session. The matter of the fees I found would sooner or later require a communication from me, since the council took no notice of the wish expressed in my letter of resignation, that my share of the fees of this season should be returned to those who desired it; and, as those students who applied for the fulfilment of my wish were refused, I waited, therefore, on this account also. I have, at length, received a letter from the secretary of the college, stating that the council can be no party to the return of fees to the students, and offering me half of the professor's portion of the fees paid up to Christmas. Since there was no prospect of my fees being returned to you, unless I first received them, I have received the portion offered, in order to transmit it to you.

From the moment of becoming a teacher in the school, I acted on the principle that it was instituted for the dissemination and discovery of truth. I considered myself bound to learn what was the truth on every point of the subjects which I taught, and to promulgate it; and my office at the hospital I considered myself bound to make a constant field of careful inquiry. I had no idea of any other success for the school than the success of imparting knowledge; and for this I laboured indefatigably and disinterestedly. I lowered my perpetual fee from £9. to £7., and my sessional, from £6. to £5.; and it was not till after thus losing a considerable sum during a few years, and finding that the other professors, though they had cheerfully assented to the reduction of my fees, would never follow my example, that I gradually brought them up to their original amount, so that my successor might receive the office unimpaired. I gave clinical lectures regularly once a week, and, during one summer, three times a week: I gave them, consequently, in far greater number than my colleagues. I lectured upon all my cases, detailing every thing faithfully; never fabricating histories, treatment, or results; never giving occasion for an editor to discontinue the publication of them on account of letters incessantly arriving to say they were made up and at variance with the facts; never declaring that an organic disease was cured, when it was in the same state as at the patient's admission, nor assuring the world that it was put down in the book as relieved only when it was actually put down as cured. I endeavoured to act in the kindest manner by every student, and was always ready to communicate what information I possessed, and to perform the part of a friend. My happiness in the institution was unalloyed till an unhappy spirit gained admittance; and from that time there has been no more peace than there had been in the place where he formerly sojourned. Totally unprovoked, nay, receiving invariable civility from me, and actuated, as far as I can judge, by envy only, he very soon spoke behind my back so inaccurately and injuriously, according to the firm assertion of note-takers, that he was compelled partly to deny his words and partly to apologize in public. A few ill-conditioned young men will always exist among your numbers, but such were unable to become conspicuous before his arrival. Him they found a rallying-point; and the conduct of nearly every one connected with him I have seen reason deeply to deplore, and have found hostile to myself; even of those to whom I had shewn nothing but the greatest attentions. However, I quietly continued my course of industry and duty.

At length, in 1837, my attention became directed to a subject which, though utterly neglected in this country, was receiving great attention on the continent. Certain wonderful phenomena, and certain modes of producing these phenomena and of curing diseases ill understood and difficult to cure, were vouched for by men of the highest information and the soundest judgment; and I felt it my duty to investigate the matter. I soon found that there was a fund of truth in what I had heard and read; that an agent or agency existed which had been overlooked; and my inquiries were soon attended with such results that a large number of medical men, most distinguished noblemen, nay royalty itself, members of the House of Commons, some of the first men of science in the country, professors of Oxford, Cambridge, King's College, and Edinburgh, the presidents of the Royal and Linnæan Societies, and teachers of the various hospitals, flocked to witness my facts. Some of these gentlemen made handsome donations to the hospital in consequence, and others expressed their intention to do the same, but have declined in consequence of my resignation. This soon excited envy, and this excited a commotion; and the late dean advised me to desist. He urged that, whether the wonderful facts were true or not, and whether great benefit in the treatment of diseases would result or not, we ought to consider the interests of the school—not of science and humanity, observe—but of the school; that, if the public did not regard the matter as true and the benefits as real, we ought not to persevere and risk the loss of public favour to the school; that I was rich, and could afford to lose my practice

for what I believed the truth, but that others were not: in short, his argument was "*rem, rem,*" and "*virtus post mummos.*" I replied that the institution was established for the dissemination and discovery of truth; that all other considerations were secondary to this; that, if the public were ignorant, we should enlighten them; that we should lead the public, and not the public us; and that the sole question was, whether the matter were a truth or not. I laughed at the idea of injury to the pecuniary interests of the school.

The commotion increased. My demonstrations were debated upon at meetings of the faculty, and discussions went on between members of the council and professors, an exquisite secretary, and other more humble holders of office. At one meeting of the medical faculty, a professor boasted that he had seen none of my experiments, and should have considered himself disgraced if he had; that animal magnetism had been proved above forty years ago to be a perfect humbug and imposture; and that it was now in as bad repute with the public as Christianity had been at its first promulgation. Another professor boasted that he had seen none of the facts, and, though invited by my clinical clerk to observe them while visiting his own patients in the ward, that he had declined the invitation. One professor declared that he never could procure a vacant bed because I detained my patients so long in order to mesmerise them; and another reported that patients would not apply for admission, lest they should be mesmerised, and that others left the hospital to avoid mesmeric treatment. But, when I inquired of the officer whom I understood to have furnished these absurdities, he assured me that he was blameless, and made the general scape-goat of the place; and he entreated me to accept his denial without an inquiry which would embroil him with the professors. Not conceiving that any thing but reputation could accrue to the hospital from the demonstration of physiological and pathological facts to crowds of the first men in the country, among whom were characters totally opposed in politics to the place, and who otherwise never would have entered it, I persevered. The president of the college, Lord Brougham, and five other members of the council, did not refuse to attend the demonstrations; nor did the professors of the faculty of arts; nor Dr. Grant, Dr. Lindley, nor Mr. Graham. But, with the exception of the three last gentlemen, whose conduct throughout has commanded my respect, I never saw any of the medical faculty; if any ever were present, it could have been only to reconnoitre unobserved by me. The Irish, the Welsh, and four of the six Scotch medical professors, held meeting after meeting of the faculty or of the hospital committee, which my disgust prevented me from attending. At these meetings I know that the most bitter feelings against me were manifested, and matters discussed which were perfectly irrelevant, but the introduction of which shewed the hostility of certain parties. I have always acted in the most honourable and correct manner; and dare any examination of my conduct. I had, however, given great offence by urging, with the senate of the London University, the hardship and inutility of compelling attendance upon particular courses of lectures, and especially upon lectures on morbid anatomy, because the morbid anatomy of a disease is as much a part of the disease, and as much to be explained at length in lectures on the practice of medicine, surgery, and midwifery, as the symptoms and history; and, indeed, cannot be taught with advantage separately from the symptoms. Distinct lectures on morbid anatomy must be superfluous, if professors of the practice of medicine, surgery, and midwifery, perform their duty: and the London University has at last yielded to the opinion I defended. I found that I also had given great offence by declaring in public that the college was founded, not for the professors, but for the diffusion of knowledge, and that the fees of the professors were but a secondary consideration, and established solely to induce them to diffuse knowledge.

Among the puerilities talked by the professors, both at these meetings and out of them, it was predicted that the number of medical students would be seriously reduced the ensuing winter, that not one would come from Bristol, and that I should have scarcely any class at all.

At length Dr. Lindley and Mr. Cooper waited upon me in the name of the Medical Committee of the Hospital. They brought the following acknowledgment of my right to practise mesmerism in the hospital:—

Resolved—"That the (medical) committee fully recognize Dr. Elliotson's undoubted right to employ animal magnetism as a remedial agent in the wards of the hospital, when he considers it necessary to do so. But that the committee are anxious to know whether Dr. Elliotson has been correctly understood as not intending to continue in the hospital the exhibition of the experiments on that subject."

Dr. Lindley and Mr. Cooper confessed to me that they could not imagine that my demonstrations would hurt the hospital; and Dr. Lindley, in his own noble and

honest manner, declared that he thought the facts which he had witnessed were very curious, and deserved investigation. The feeling, however, for what reason they could not tell, was so strong, that they conceived my best course was to give up the demonstrations. Mr. Cooper suggested, as indeed Dr. Davis had done, that I should show the patients in my own house, or some house in the neighbourhood. One professor recommended a public-house. But I declined to exhibit hospital patients to a number of persons any where but in the hospital. For the sake of peace, therefore, I consented never to show the phenomena again in the theatre of the hospital, unless my colleagues approved of the list of those to whom I wished to demonstrate them: and both gentlemen agreed that this ought to content the party. It, however, did not content them. They still refused to come and examine into the phenomena; and, when I sent to the medical committee a list of many of the highest names in and out of the profession, who had applied for permission to witness my facts, they absolutely refused to read it. The following are the words of the official answer to the secretary:—

"July 5, 1838.

"Your letter, addressed to the medical committee yesterday, was forthwith laid before the meeting specially summoned for its consideration. The committee determined not to read the list of names appended thereto."

I had proposed that a committee should be formed to investigate my observations. It was to consist of gentlemen from different schools; and I requested Drs. Grant, Lindley, and Sharpey, and Mr. Graham, to be upon it. Mr. Graham declined on the score of his great engagements, but Drs. Grant and Lindley consented. From Dr. Sharpey I received the following letter:—

"68, Torrington Square,
Monday morning, 14th May.

"My dear sir,—I was all yesterday in the country, and arrived in town at a very late hour, otherwise I would have sooner replied to your note.

"From what I have read and seen of the so-called mesmeric phenomena, I am convinced that some of these phenomena really *are* what they *seem to be*, and possess a very high degree of physiological interest; moreover, I know that there are other effects supposed to be produced by mesmeric operation, of a much more extraordinary character, the reality of which, though I frankly own I do not believe in it, is admitted by physicians of intelligence and experience, and which, on that account, are entitled to a fair examination. These being my sentiments, which I have never hesitated to express, you cannot suppose me indifferent to the subject, or disposed to treat with neglect or disregard your experiments in the hospital. But I have refrained from participating in or witnessing these experiments, for two reasons. First, from what I have heard of these exhibitions (I use the word respectfully), I am inclined to think that, however different may be your intention, they are calculated rather to minister to the popular love of the marvellous than to afford an advantageous opportunity of testing the reality of the effects produced as the alleged efficacy of mesmerism as a remedial agent; and secondly, in the present state of opinion among the public and the profession, respecting animal magnetism, the frequent repetition of such exhibitions in the hospital has appeared to me not altogether judicious.

"Of course, I am far from finding fault with you for entertaining different opinions; but as these exhibitions still continue, and my own sentiments regarding them remain unaltered, I trust you will pardon me for declining your invitation, however flattering it may be, as I wish to avoid connecting myself, even indirectly, with proceedings which seem to me objectionable.—I am, my dear sir,

"Very truly yours,
W. Sharpey.

"Dr. Elliotson, &c. &c."

The public exhibitions, however, as they were termed, were discontinued; but Dr. Sharpey still never thought proper to witness the facts, which it surely was his duty, as a teacher of physiology, to go and witness, that he might treat the subject properly in his lectures. Entreated on all sides to exhibit the phenomena, I requested of the council permission to demonstrate them in one of the theatres of the college, when this was not in use. But I was refused. One of the council, whose goodness and liberality render him an ornament to the Jewish nation and to England, moved the reconsideration of the refusal, or made a motion for permission, but in vain. I hear that he entreated the council to witness the phenomena and judge for themselves as *he* had done, but in vain. Yes, the majority of the council, perfectly ignorant of the subject, refused to go to learn any thing of it before they passed judgment upon it; and among these were legislators, barristers, and one physician. Yet this same council gave permission for the exhibition of a boy with a strong memory, to the public, at so much a head, and tickets were purchased by any body as for a concert*.

* "Ticket of admission to the exhibition of the calculating powers of the Sicilian boy, Mangiamele! in the theatre of the University College, on Monday, August 13th, 1838. Admission 10s."

I persevered in the daily study of the subject, deriving the most exquisite intellectual pleasure that I had ever experienced. In an evil hour, I consented to show some experiments to the editor of the Lancet, after repeated entreaties conveyed by his assistant, Mr. Mills, who had witnessed the phenomena at the hospital, reported many in the Lancet, been enraptured with them, and declared them over and over again to be so satisfactory, that to doubt or to suspect the two Okeys of imposition would be the height of absurdity. I exhibited to the editor the production of the singular delirium, and a variety of the most beautiful and satisfactory experiments, which he has entirely suppressed. But I presently feared what would be the result. He said he was pestered with letters upon the subject; but that nineteen out of twenty were unfavourable. Nineteen persons, of course, purchase more Lancets than one; and I fancied I already saw his rejection of the evidence. The mental phenomena were such as no person capable of sound and refined observations, and fitted for philosophical investigation, could for an instant have imagined to be feigned. The physical phenomena with the hand, the eye, metals, and water, were as striking and conclusive, with the exception of some with lead and nickel; and those I have since proved to large numbers of able judges to be equally conclusive. Mesmerized nickel produces upon the elder sister the most violent effects, which none but a very ignorant person could consider pretended. Now, when this, or gold or silver, has been rubbed upon a part, and the friction has been desisted from before the effects come, or the effects have come and have ceased, they may be at once excited in the former case, or re-excited in the latter, by friction of the part with any thing—a piece of wood or a piece of lead; and this excitement may be produced again and again. Friction was performed with lead upon parts to which nickel had been applied either with or without effect as it might be, and the effects took place violently. This explanation I gave to the editor, but he was either too dull to understand, or had his reasons for not understanding. In another set of experiments lead produced effects, though nickel had not been applied to the parts; and yet I never had been able to mesmerise lead by holding it in my hand, and to produce effects by then applying it. Those effects I candidly said I could not explain, since I had not commenced experiments with lead or nickel for more than two or three days; but as there was no more deception in the cases, nor less certainty of the various facts which I had observed, than in chemistry or any other natural science, I added that these results shewed only that they required further investigation, and that I had no doubt I should, by perseverance, discover their cause. The editor knew that I was about to leave London that same day for an absence of six weeks on the continent, and yet he could not wait for my return and give me an opportunity of farther research, but, with that gentlemanly delicacy for which he and his friends are so remarkable, published, almost immediately, what professed to be an account of what he had seen—a most imperfect and worthless account, however; in his plenitude of scientific importance, he declared that not one more experiment on magnetism would ever be required; and answers which were sent he never published. He omitted to state a circumstance in his experiments with lead, which had never been allowed to happen in mine, but which, when reflecting upon them on my tour, I thought might have influenced the results. In employing the lead, I had noticed that he applied it against a piece of nickel held in his other hand, before he applied it to the patient. On my return, I applied lead to her as before, and, indeed, copper also; yet never obtained an effect. I then applied the lead or the copper, as it might be, against a piece of mesmerized nickel or gold, before applying it to her; and its application to her was then always productive of effects. I discovered that the surface of the lead or copper had become nickelized or aurified by the contact; and thus the difficulty was solved. These experiments I have repeated again and again before numbers of gentlemen, taking the greatest care that the patient should not know when I applied lead or copper which had not been in contact with nickel or gold, and when I applied lead or copper which had been in contact with either of them; and the results have been uniform. I was obliged to leave the poor little girl in an intense coma, with occasional violent tetanic spasms, at the editor's house, little imagining that any farther experiments would be attempted, especially in my absence, by a person ignorant of the subject and altogether incapable of making experiments. I had seen sufficient of the extreme carelessness, and want of information and philosophic power, of the editor, during the experiments conducted by myself, and which he frequently altogether deranged, not to be convinced that in my absence no experiment could be made in a manner to justify conclusions. In his ignorance, he acted as though mesmeric susceptibility is always present and always the same: whereas the reverse is the fact; and expe-

riments with water and metals frequently repeated so derange the susceptibility that we are often obliged to desist.

During the five months which have elapsed since my return, I have repeated all my experiments and continued my observations, not only on the two Okeys, but on other patients; and all the results of my former inquiries have been confirmed, and all difficulties solved. For nearly two months I continued my inquiry into Elibeth Okey's case in the hospital. She and her sister had been both entirely cured of their epilepsy by mesmerism, after all other remedies had failed; but she was suffering in October from an agonizing pain in her loins and frequent ischuria; and I therefore re-admitted her, after an absence of nearly two months. I did not attempt to remove these symptoms by mesmerism, but I frequently threw her into a mesmeric state, partly for the purpose of ascertaining facts, and partly because in it her sufferings were less. I admitted three lads with epilepsy, and a man with paroxysms of imbecility, whom all four I treated with mesmerism, and it only. My clinical clerks sat before each, waving their hands, for half an hour daily: the immediate result was drowsiness, or sleep, and the ultimate great alleviation of the diseases, and every prospect of cure. To my great astonishment, I received a summons to attend the house committee of the hospital, on account of a Mr. Cope, a clerk, I believe, in some public office and one of the committee, having directed attention to the fact, that Elizabeth Okey, after having been sixteen months in the hospital, and discharged in August, had been re-admitted in October. Dr. Thomson had a patient at the very time who had been fourteen months in the hospital, and has now been there nearly seventeen; and yet no notice was taken of this. I explained that the little girl was now in the house for another complaint, and presumed that, if a patient, who had been an inmate of the hospital for several months on account of a broken leg, were to break his arm the very day after his discharge, he would be re-admissible; and to this the chairman assented. I was then questioned respecting Elizabeth Okey's power of predicting death. Now, you are aware, gentlemen, that some persons have an idiosyncrasy to be affected by emanations which have no perceptible effect on mankind at large. Some have catarrh and asthma when near certain grasses in flower; some, when near a hare, dead or alive; some have an indescribable sensation of a most distressing kind when near a cat. Elizabeth Okey has a sense of great oppression, sickness, and misery, when within a certain distance of persons whose frame is sinking. The emanations which are constantly proceeding from us all are so altered in their composition, I presume, in extreme debility, that a high susceptibility may suffer from them. Whenever the effect upon her has been of a certain intensity, I understand that the patient who produced it has died. The phenomenon had been known to the nurse, and invariably verified by her for a long period before I heard of it; and Elizabeth Okey only by chance communicated it to me in November during her delirium. When not in a mesmeric state, that is, when not delirious nor somnambulic, she has not this idiosyncrasy, and is perfectly ignorant that she ever has it. In her somnambulism she has it simply; but, in her delirium, it is attended by a an allusion that she sees a figure, something like the representations of death, wrapped in a white robe. The more intense the oppression from the emanations, the taller the figure: the stronger, therefore, are the emanations, and the nearer the person to his end. This is perfectly in accordance with the phenomena of dreams, which are a sort of delirium. If we have an inflammation of the foot, the heat of this is very likely, in our dreams, to make us fancy the part is roasting on the bars of a grate: if we have the rheumatism, we may dream that some one is giving us the bastinado: in oppression of the breath, we may dream that we see a demon sitting upon us—in short, have the night-mare; and it is very conceivable that, the more distressing the oppression, the larger might the figure be imagined. Thus, the sensation, which she knows to arise from the influence of a person hurrying to the grave, gives her a fancy that she sees the figure, when in her delirium; but if she is near a sinking person when in a state of somnambulism, in which her reason is sound, she not only has the sensation merely,—sees no figure, but tells you that the idea of the figure in her delirium is a delusion—the product of delirium. On learning this wonderful fact, I examined carefully into it, and ascertained its reality. But having had, among a few of the students who have signalized themselves, some by scribbling and some by talking, experience of the falsehoods and absurd objections to which all the mesmeric phenomena of my patients were exposed, I resolved to conduct her into my other ward, in which she was unacquainted with the diseases of the patients and with the patients themselves, and to conduct her there at the close of the day when she could not see the patients. Accordingly, about five o'clock, in December, I begged the nurse of the ward to accompany us. I enjoined the little girl not to

utter a word, and I led her, not to the bedside of the patients, but up one side of the ward and down the other, without stopping; and no one knew the object I had in view. I felt her shudder as she passed the foot of two beds; and after leaving the ward, she told me that she had felt the sensation, and seen the figure, which she in her delirium, but in her delirium only, calls Jack, at two of the beds. The nurse informs me that, in passing one bed, she heard her whisper, "there's Jack," while she shuddered; but I did not, although I had hold of her hand the whole time. This patient, who was then in a state of perfect insensibility, soon died; the other, I hear, is still alive, but his disease will be, from its nature, necessarily fatal. I considered it my duty to inquire into this interesting fact. There was nothing in it contrary to established physiological and pathological truths; but it was an unusual modification, and, had I not inquired into it, I should have been devoid of all spirit of professional inquiry, and, moreover, should have exposed the innocent and excellent little girl to another false and base accusation of imposture. But how did the house committee act? They detained me the best part of an hour, waiting about the building, while they examined different nurses, as to whether I had ever led Elizabeth Okey into the wards to predict the death of patients; and then they sent for me: instead of treating me as a professor, as senior physician, as a gentleman, as an honourable person, and making their inquiries of me in the first instance. I did not notice this; but the explanations which I have now given I gave then, and the committee seemed satisfied. The subject, which is one of the highest philosophical interest, has been disgracefully misrepresented. I have been said to employ Elizabeth Okey to prophesy: and one student, whose conduct towards me, in return for invariable kindness, has covered him with lasting shame before all good men, and causes him to be the laughing-stock in private of those to whom he has been weak enough to become a tool, shamelessly declared in public that I led Elizabeth Okey to the bedside of patients to prophesy their death, and that afterwards, of course, they died. I ought to add, that I mentioned the idiosyncrasy of Elizabeth Okey to no one in the hospital but Mr. Wood; not to my clinical clerks, nor to the apothecary; who, however, I find, had surmised it from something I had said to him in private, and had gossiped about it as he went about giving his characteristic opinion, that the professors were justified in preferring their pecuniary interests to the consideration of the truth and remedial powers of mesmerism. The committee appeared satisfied, and I was assured that my explanations had made a great impressions. All went on comfortably, as far as I knew. My four male patients, who were mesmerised, improved rapidly. The man's fits of imbecility had ceased, and he thought of leaving, full of gratitude for his cure. Two of the boys had experienced no fit for above two months; and the frequency of the fits of the other boy had diminished, when, on December 27th, I received a resolution of council, from the hospital committee—

"That they be instructed to take steps, forthwith, for the discharge of Elizabeth Okey from the hospital."

I immediately showed the paper to the apothecary, who said that he had known of the resolution several days before, as well as of another, which I had not yet received from the house committee—viz. that the practice of mesmerism should be immediately discontinued. I proceeded to the house of the treasurer of the college and hospital, and he informed me that the second resolution had also been passed. I, therefore, at once wrote the following letter to the secretary of the council:—

"Sir,—I have just received information that the council, *without any interview or communication with me*, has ordered my patient, Elizabeth Okey, to be instantly discharged, and forbidden we to cure my patients with mesmerism. I *only* am the proper person to judge when my patients are in a fit state to be discharged, and what treatment is proper for their cases.

"As a gentleman in the first place, and as a physician in the next, I feel myself compelled at once to resign my office of professor of the principles and practice of medicine and of clinical medicine in the college, and of physician to the hospital; and hereby resign them all, and shall *never enter either building again*.

"When I was made professor, I received a class of 90; the class is now 197; 13 more than at Christmas last year; and, as there were 24 entries after Christmas, then the whole number of the present session would, no doubt, have been above 220.

"I have not received my fees this session. It is my wish that they be all refunded to the young gentlemen, who are perfectly welcome to the lectures which I have already delivered.

"I have the honour, &c.

"John Elliotson.

"Conduit Street, Dec. 27, 1838."

You will agree with me, gentlemen,

that, to hold office one moment on such terms, and under men capable of acting in a manner at once insulting and irrational, would have been impossible. If I was unfit to determine when my patients were in a fit state to be discharged, and how they were to be treated, I ought to have been dismissed. But, while I held office, I was to be considered fit to judge of these points. Had my colleagues in the hospital possessed a becoming spirit, and felt what was due to themselves and the profession, they would have resisted this infringement of their general rights, whatever their opinion of mesmerism, even if they had attended to it sufficiently to justify an opinion. Indeed they were bound to act thus, since they had resolved months before, in committee, that they acknowledged "*my undoubted right*" to practise mesmerism in the hospital. But this I could hardly expect, since they were so forgetful of academic propriety, that, in their lectures, one designated my patient Okey "an impostor," and another, the bosom friend of the editor of the *Lancet*, called mesmerism "the most impudent of modern humbugs," and, indeed, pronounced me to the students, in a public room of the hospital, to be "a tom-fool." The insult was the greater, as I was senior physician, was thought to have greatly raised the reputation and numbers of the school, and had been the main cause of the establishment of the hospital, although I gave great offence at the time to some of the professors for honestly pointing out that the medical school was inefficient without an hospital. The conduct of the council was irrational, since the majority refused to witness the experiments upon a subject of which they were utterly ignorant, and to have an interview with me for the purpose of inquiring into the business. They suspended a practice which was perfectly innocent, simple, and devoid of expense, and had worked, and was working many most remarkable cures, even in cases which had resisted all other treatment, and had been sent out of other hospitals as incurable, which they well knew. The college was thriving this winter as much as last; my class was larger than ever it had been at this period of the season; and the hospital was crowded with patients and pupils. The Council, completely unknown in science or literature as they all are, with two or three exceptions, proved themselves totally unfit to conduct a place of education, and more especially one which boasted to be founded on the most liberal principles, and to be free from the prejudices of old Universities. They put a blot upon the institution which will never be erased.

I am happy to say that, though two of the most absurd and obstinate were men, I hear, from whom, one being a great legislatorial medical reformer, and the other a physician, better things might have been expected, the noble President, Lord Brougham, does not hesitate in society strongly to condemn their proceedings. And well he may. Mesmerism is not only true, and of the highest interest in a psychological, physiological, and curative point of view, but is now proceeding at a very rapid rate. Most interesting English works upon it, especially one by a clergyman named Townsend, will soon be published. Hundreds of able men have been converted to a conviction of its truth within these few weeks, and a large number of medical men now not only believe, but practise it. I have lately met with and shewn to the profession wonderful cases and cures; and other gentlemen are equally successful.

The sum sent to me by the Council, after deducting one-third for the institution, and half of the remainder for my successor, amounts to 255*l*. Those gentlemen who have not intended to continue pupils of my successor and have certificates of him, shall, out of this sum, receive back, on sending me their names, the whole amount of their admission fee—not only my third, but an equivalent to the third retained by the Council, and to the third appropriated to my successor. Any surplus that may remain I will not keep, but beg to deposit with a committee of you, and appointed by you, to dispose of in any manner that you may think proper, unconnected with the College or hospital, to which I had intended all my fortune ultimately to go, though I cannot now allow a sixpence of mine to pass to an institution thus degraded. I would take the liberty of suggesting that Mr. Penny, whose indignation led him to return all his tickets, be first entirely reimbursed out of it.

With great regret, gentlemen, at being compelled to part from you; with every kind wish; and with the hope that you will always consider the pursuit of truth, and the practice of what leads to the greatest happiness of the greatest number, the best occupation of your existence,

I remain,
Your late faithful and affectionate teacher,
JOHN ELLIOTSON.

Conduit Street, March 4, 1839.

WESTMINSTER MEDICAL SOCIETY.

March 9th, 1839.

HALE THOMSON, ESQ. CHAIRMAN.

Tubercular Kidney in a Child.—Discussion on the Sources and Effects of Malaria, concluded.

MR. STREETER introduced to the notice of the members a tubercular kidney taken from a female child, that died at the age of seventeen months. The little patient had for three months been affected with disease of the mesenteric glands, for which she had been treated, and of which she died. During life, the renal disease had not been suspected; the functions of the entire alimentary canal were disturbed; the stomach was irritable; and the alvine discharges offensive and ichorous. Not suspecting the existence of the malady in the kidney, he (Mr. Streeter) had not tested the urine whilst the patient was under treatment; but since her demise he had collected a drachm or two of it from the ureters and pelvis of the kidney, and, testing it with nitric acid, had detected a small quantity of albumen in it. He had sent the kidney to Dr. Bright, who had pronounced the affection not to be of the same kind with that which he had originally described. The opposite kidney was quite healthy. The lungs were sound, but the brain was not examined.

Mr. Hale Thomson had seen a similar affection in a child of the same age, in the Westminster Hospital. The patient was a boy, and the disease was marked by a constant irritation in the penis, which, at first, induced a suspicion that he was affected with stone in the bladder.

Dr. James Johnson considered the tubercles in the kidney to be strumous, and analogous in character to the tuberculated enlargement of the mesenteric glands.

Dr. Addison said he had seen many such cases, and he did not think there was any thing very singular in its simultaneous occurrence with disease of the mesentery in a child of that tender age.

Mr. Streeter stated that he had never seen the disease in a child, and he felt disposed to think its occurrence at so early an age rare.

The President, at nine o'clock, called upon Mr. Snow, the seconder of the adjournment of the debate on the previous evening (in the absence of the mover), to proceed with the discussion of MALARIA.

That gentleman accordingly entered into some ingenious ratiocination as to the nature of the malarious poison. He felt disposed to concur in the views of Dr. Ferguson, who did not consider vegetable decomposition as the cause of malaria, but a particular condition of the atmosphere, contingent upon the occurrence of heat and dryness after a rainy season. We regret we could not collect the details of Mr. Snow's address, in consequence of the lowness with which he spoke.

Mr. D. O. Edwards thought that Dr. Addison had too much magnified the influence of malaria as a cause of disease in the present day. He (Mr. Edwards) was acquainted with the metropolis on both sides of the river, and knew of no physical sources of malady which a more vigilant police would not be able to remove. No metropolis in Europe had so much improved in salubrity within the thirty last years as London. This was proved by the increased average duration of human life. With one locality particularly denounced by Dr. Addison—the precincts of Buckingham Palace—he was well acquainted, from having resided six years in the old Westminster Hospital, about a hundred yards distant from the palace. Whilst he was in the institution not a dozen cases of ague, or other intermittent diseases, occurred. That hospital had been conducted on the same site for 120 years, and all that time patients had been treated and had recovered in it in the same proportion as in other establishments of the kind. In the year 1833, which was the last on which the charity was conducted in the ancient building, there were 764 patients admitted, and of these only two were labouring under intermittent fever, being in the proportion of 1 to 382—a proportion which did not bear out the alarming statements of Dr. Addison.

The records of the Westminster Hospital had supplied him (Mr. E.) with facts which militated equally against another assertion of Dr. Addison's, namely, that no means could remove the natural unhealthiness of any neighbourhood. From these documents it appears, that in the year 1720, out of 108 patients admitted, 22 were cases of intermittent fevers, being a proportion of 1 in 5. In 1721, out of 271 cases, 41 were intermittents, being a proportion of 1 in 6½. In 1722, out of 333 patients admitted, 45 were cases of ague, being a proportion of 1 in 7½. In 1723 there were 35 cases of ague in 270 patients, or 1 in 8. But in 1833 the proportion was only 1 in 382. The topographical history of Westminster and Pimlico explained the cause of this diminution. Immense sewers had been excavated, the marshy surfaces had been built over, and the roads and causeways paved

and drained, and the result was, that the health of the population had improved, as well as their social condition. It was curious that, during the four first years of the Westminster Hospital, not a single case of continued fever was admitted, whilst in 1833 the number of patients with these fevers bore a proportion of 1 in 24 to the entire number of admissions. What could be the cause of this difference? Could it be, that civil causes, such as crowded population, &c. had supplanted the more purely physical causes of malaria, and the variations of the seasons? If we are ignorant of the nature of malaria, and its *modus agendi*, it was obvious, from the facts he had stated, that at least we possessed and had successfully exercised the power of destroying its resources.

Dr. C. J. B. Williams was of opinion that an inquiry into the nature of malaria was not unprofitable, as a more accurate knowledge of its essence would enable us to devise more sure means for its prevention. He thought the efforts which had been made to prove malaria a definite gas, had failed. The most eminent chemists had been unable to detect any difference in the constitution of the atmosphere existing in the neighbourhood of marshes from that in other situations. It had been found that on collecting light carburetted oxygen gas from stagnant pools, and then passing it through water, a putrescible matter was left in the water, which decomposed very rapidly. It had been recently shewn that the various kinds of fermentation depended upon the germination of organic molecules; and he thought it highly probable that the *ovules* of these monads thus generated in putrescent vegetables, might so operate on the animal frame as to induce intermittent fever. Regarding the sources of malaria, whatever its essence might be, he was of opinion they were essentially dependent upon stagnant moisture and heat, and the decomposition of, probably, a particular kind of vegetable matter. He thought the facts stated by Mr. Alcock might be accounted for by supposing that the malarious poison was imbibed into the system at a time when the generating causes were active, but that it lay dormant in the constitution until it was stimulated into activity by such provocative circumstances as mental depression, exposure to cold, and deficiency of clothing and food. Regarding decomposition of animal matter as a source of malaria, the gases produced were of a more definite character, and their deleterious effects upon the human constitution better understood; but even in this case he was more inclined to consider an organized matter as the cause of disease than any binary compound. It was by no means improbable that *ovula* generated from these animal sources, also should be the exciting causes of various diseases. With regard to the prevention of malaria, he concurred in opinion with Mr. Edwards that drainage and building were powerful means. The statements made by Mr. Edwards were conclusive on this point. The site of Belgrave Square, too, was formerly celebrated for its unhealthiness; but now it was known to be as salubrious as any other part of the metropolis. He (Dr. W.) had no doubt that an extension of these means would greatly promote the healthiness of the neglected environs. Chemical antiseptics were powerful means of destroying not merely all kinds of virus, but equally effectually every species of malaria.

Dr. Chowne considered that fogs and other aqueous exhalations predominating in the atmosphere are the effect, and not the cause, of a levity of the atmosphere. He thought the source of malaria depended upon evaporation from the surface, going on during a peculiar change which was occasioned in vegetable matter in decay by the power of heat. He could not concur in the theory of Dr. Fletcher, that a morbid secretion from plants was the cause of malaria; for in that case wherever this disease of vegetables existed, then there should be malaria; but such was not the fact. It was not till the vital principle of the plant became feeble, and incapable of resisting the chemical affinities of its constituent elements, when it began to decay, that the morbific emanation commenced. Odour was not essential to its presence, and fogs afforded no indication of its presence, for these were as common in mountain districts as in marshy plains. He thought there was an identity in the cause which produced intermittent and continued fevers. He did not agree with Dr. Addison that these two classes of maladies were perfectly distinct. It was true it was a rare thing for typhus fever to terminate in intermittent fever, for the natural termination in typhus was, either that the patient succumbed to the disease, or that, by the powerful elasticity of his constitution, he threw it off and rapidly convalesced; but he had known many intermittents become successively remittent and continued. The case related by Dr. Addison, on the first evening of this discussion, assisted his (Dr. C.'s) view of the matter; that was the case of an Irish labourer, engaged in harvest-work in an agricultural district; he was exposed to malaria, but he was not af-

fected with any malady until six weeks afterwards, when he was attacked in town with typhus fever. The *seminium* of the disease was acquired in the country, but it required certain adjuvant circumstances to bring it to maturity, and then it was developed as typhus. He had never thought the banks of a river absolutely favourable to the production of malarious disease. The littoral of the Thames was unhealthy near London, from the accidental circumstance that the river flowed through marshy ground. Had it turned off at Richmond, and flowed in any other direction to the sea, the basin in which London is situated would have been equally unhealthy. Parts of the banks of the river, near which no marshes existed, were free from ague or any other effects of malarious exhalation. He could state from personal experience, that the very spots on the banks of the river reprobated by Dr. Addison, such as Scotland Yard and Whitehall, were perfectly exempt from this class of maladies. Continued fevers were, however, not uncommon. He concurred with Dr. Williams and Mr. Edwards in believing that a good system of sewerage and draining—that covering the ground with buildings, and even the laying down of roads, were potent means of improving the healthiness of a neighbourhood.

Dr. Addison having risen to reply at a late hour, said that he should be very brief. He had comparatively little to do, for the arguments of the several speakers had, like the armed men of Cadmus, pretty completely annihilated each other. He had purposely avoided alluding to the influence of animal matter as a cause of disease. That was a subject still in a great degree untouched; and he would merely remark, that there existed a good many facts that would go a great way to prove that it had little or no injurious effect. He should not go into the subject of the nature of malaria, of which he professed to know nothing; he could not, however, refrain from saying, that he thought Dr. A. T. Thomson's idea that hydrogen was the active principle of malaria, was a fanciful hypothesis. He thought, also, that stagnation of air, as stated by Dr. Johnson, was an accidental, not an essential cause of malaria; for stagnation would exist exactly in those situations where sources of malaria were to be found —in marshy valleys bounded by hills, and where, as a matter of course, the atmosphere would be comparatively calm. The particles of the matter acted upon might or might not be stagnant; thus mud was stagnant, but if it were a moving mass exposed to the sun's rays, the malaria would be produced as copiously as if the mud were perfectly still. Dr. Johnson and Mr. Edwards had objected to his opinion regarding the unhealthy situation of Pimlico Palace. Could they deny that it was situated in a hole? All that Dr. Johnson could say in its defence was, that it was not quite so bad as some other places; and Mr. Edwards had most completely succeeded in proving the very converse of his position, for to vindicate the salubrity of his favourite neighbourhood, he had adduced a table, which shewed that out of a specified number of cases *one in five* were agues. Throughout the entire discussion, all the speakers, with the exception of Dr. Johnson, had misapprehended his argument, and considered ague as an essential concomitant of the effects of malaria. This was a great error, for there were a host of other diseases arising from malaria equally destructive of the health and happiness of the patient, and to which it was the purport of his paper to attract the attention of the profession. The most fatal cases resulting from malaria were chlorotic and anemial affections occurring in both sexes, connected with diseased spleen or diseased liver, and unaccompanied with intermittent fever. He had been highly pleased with the observations of Mr. Verrall, who suggested that a diversity of poisons produced the diversities of fever; he concurred to a great extent with Mr. Verrall. He could not agree with Dr. Chowne that the causes of intermittent, remittent, and continued fever were identical; for in his long experience he had never seen a case where the one form merged into the other.

The learned physician now related two or three cases in which the symptoms simulated those of severe meningitis, and occurring in females in a malarious district, and in whom, after the failure of the antiphlogistic plan, large doses of quinine relieved the patient in a few hours. He then related one or two other cases which he had visited recently in Mr. Edwards's district, and evidently arising from malaria. His only object, he said, in bringing the subject before the Society, had been to point out the necessity of inquiry into the diagnosis of these important diseases, and to induce his medical brethren not to overlook the operation of a cause which was much more active in the production of disease than was generally supposed.

IDIOS.

PHYSICAL SOCIETY, GUY'S HOSPITAL.

March 9, 1839.

Dr. Bright, F.R.S. in the Chair.

Mr. Birkett read a paper on the—

Development and Reproduction of Bone.

The author, after alluding to the experiments of Mr. B. B. Cooper, published in the second and third volumes of the Guy's Hospital Reports, and to the analyses of the different bones of the skeleton, by Dr. G. O. Rees, proceeded to draw the attention of the Society to the following points, viz.:—

The office performed by the surrounding extravasation of blood consequent on injury;

The importance of the blood effused from the lacerated medullary artery, which formed a clot in the cylinders of the long bones, and the cells and canals of the flat bones;

The use of the periosteum, and its office in the reparation of bone;

The source of the newly-formed bone.

Quotations were made by the author from the works of Cooper, Müller, and Miescher, and after a full digest of their opinions the following conclusions were advanced:—

1. The provisional callus is merely useful in reparation, by retaining in contact and supporting the fractured ends of the bone.

2. The blood from the lacerated medullary artery coagulates within the bone, and forms a nidus for the reception of bony matter. The whole cylinder of the bone thus becomes lined with bone, which, after having assisted in strengthening the newly-formed shaft, becomes absorbed. This action of the internal clot is only useful when the fractured extremities of the bone are preserved in adaptation.

3. The periosteum does not secrete the osseous structure, but the vessels of the bone itself perform this office.

In answering questions from Messrs. Cock, Hilton, and Blenkarne, the author stated that he did not consider the internal clot to be of use in cases where the bones overlapped. The deposit of bony matter he believed to take place in the effused clot itself, and not in fibrin subsequently thrown out. The reason why the removal of the periosteum destroyed bone was, he believed, because the vessels nourishing the bone passed through that structure, and were ruptured by its removal.

The thanks of the Society having been voted to the author, the meeting adjourned to the 23d March, when Mr. Chapman will read a communication on spinal curvatures—Mr. Greenwood in the chair.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

[Having repeatedly had occasion to allude to the new regulations of the College of Physicians for granting degrees and licenses, and having had repeated inquiries sent to us by correspondents, we think it best to give them in detail.]

The College of Physicians having for some years past found it necessary, from time to time, to make alterations in the terms on which it would admit candidates to examination, and license them to practise as physicians, has reason to believe that neither the character nor object of those alterations, nor even the extent of the powers with which it is invested, has been fully and properly understood.

The College, therefore, considers it right, at this time, to make public a statement of the means which it possesses, within itself, of conferring the rank and privileges of physicians on all those who, having had the advantage of a liberal education, both general and professional, can prove their qualifications by producing proper testimonials, and submitting to adequate examinations.

Regulations regarding Certificates and Testimonials.

Every candidate for a diploma in medicine, upon presenting himself for examination, shall produce satisfactory evidence—

1. Of unimpeached moral character;

2. Of having completed the twenty-sixth year of his age; and

3. Of having devoted himself for five years, at least, to the study of medicine.

The course of study thus ordered by the College, comprises—

Anatomy and physiology, the theory and practice of physic, forensic medicine, chemistry, materia medica and botany, and the principles of midwifery and surgery.

With regard to practical medicine, the College considers it essential that each candidate shall have diligently attended, for three entire years, the physicians' practice of some general hospital in Great Britain or Ireland, containing at least one hundred beds, and having a regular establishment of physicians as well as surgeons.

Candidates who have been educated abroad will be required to shew that, in addition to the full course of study already specified, they have diligently attended the physicians' practice in some general

hospital in this country for at least twelve months.

Candidates who have already been engaged in practice, and have attained the age of forty years, but have not passed through the complete course of study above described, may be admitted to examination upon presenting to the Censors' Board such testimonials of character, general and professional, as shall be satisfactory to the College.

The first examination is in anatomy and physiology, and is understood to comprise a knowledge of such propositions in any of the physical sciences as have reference to the structure and functions of the human body.

The second examination includes all that relates to the treatment of diseases, including a scientific knowledge of all the means used for that purpose.

The three examinations are held at separate meetings of the Censors' Board. The *vivâ voce* part of each is carried on in Latin, except when the Board deems it expedient to put questions in English, and permits answers to be returned in the same language.

The College is desirous that all those who receive its diploma should have had such a previous education as would imply a competent knowledge of Greek, but it does not consider this indispensable, if the other qualifications of the candidate prove satisfactory; it cannot, however, on any account, dispense with a familiar knowledge of the Latin language, as constituting an essential part of a liberal education; at the commencement, therefore, of each oral examination, the candidate is called on to translate *vivâ voce* into Latin a passage from Hippocrates, Galen, or Aretæus; or, if he declines this, he is, at any rate, expected to construe into English a portion of the works of Celsus, or Sydenham, or some other Latin medical author.

In connexion with the oral examinations, the candidate is required, on three separate days, to give written answers in English to questions on the different subjects enumerated above, and to translate from Greek or Latin books relating to medicine.

Those who are approved at all these examinatinations will receive the following diploma under the common seal of the College:—

" Sciant omnes, Nos, A. B. Præsidentem Collegii Medicorum Londinensis, unà cum consensû Sociorum ejusdem, auctoritate nobis a Domino Rege et Parliamento commissâ, examinâsse et approbâsse ornatissimum virum, T. S. et ei concessisse liberam facultatem et licentiam tam docendi quam exercendi scientiam et artem medicam, eidemque summis honoribus et titulis et privilegiis, quæcunque hic vel alibi Medicis concedi solent, intra auctoritatis nostræ limites frui dedisse. In cujus rei fidem et testimonium, adjectis Censorum et Registrarii chirographis, sigillum nostrum commune præsentibus apponi fecimus, datis ex ædibus Collegii die mensis anno Domini millesimo octingentesimo.

_____
_____ } *Censores.*
_____
_____ *Registrarius.*"

The College gives no particular rules as to the details of previous education, or the places at which it is to be obtained. It will be obvious, however, from a reference to the character and extent of the study above described, the manner in which the examinations are conducted, and the mature age of the candidates, as affording full time for acquiring the necessary knowledge, that there will be ample security afforded to the public and the profession, that none but those who have had a liberal and learned education can presume, with the slightest hope of success, to offer themselves for approval to the Censor's Board: and as the College trusts that by a faithful discharge of its own duty it can promise itself the satisfaction of thus continuing to admit into the order of English physicians a body of men who shall do it honour by their qualifications, both general and professional; it is prepared to regard in the same light, and address by the same appellation, all who have obtained its diploma, whether they have graduated elsewhere or not.

In drawing up and promulgating the above regulations, the College has endeavoured fairly to look at that which is substantial, rather than that which is merely nominal, in all that concerns the qualification of its members; it has resolved to estimate all testimonials, whether they are presented under the name of certificates, diplomas, or degrees, strictly with reference to their value, and to measure them by this standard alone, as parts of the previous qualification of candidates, which they are to verify in their examinations.

The College feels confident, that it has overstepped neither the spirit nor letter of the laws which have invested it with the power of governing and legislating for the whole faculty of medicine within its jurisdiction, by thus earnestly endeavouring to maintain its character and reputation, and vindicate its claim to be the source of professional honour.

FRANCIS HAWKINS,
Registrar.

December 22d, 1838.

EVELYN'S PERFECT SALAD.

We have said how necessary it is that in the composure of a sallet every plant should come in to bear its part, without being overpowered by some herb of a stronger taste, so as to endanger the native sapor and vertue of the rest, but fall into their places, like the notes in music, in which there should be nothing harsh or grating. And tho' admitting some discords (to distinguish and illustrate the rest) striking in the more sprightly, and sometimes gentler notes, reconcile all dissonancies, and melt them into an agreeable composition. Thus the comical master-cook, introduc'd by Damoxenus, when asked πως εστιν αυτοις συμφονια—what harmony there was in meats? The very same (says he) that *diatessaron*, *diapente*, and *diapason*, have to one another in a consort of music: And that there was as great care requir'd, not to mingle *sapores minime consentientes*, jarring and repugnant tastes; looking upon him as a lamentable ignorant, who should be no better vers'd in Democritus. The whole scene is very diverting, as Athenæus presents it; and to the same sense Macrobius, *Saturn. lib. I. cap.* 1. In short, the main skill of the artist lies in this:

> What choice to choose, for delicacy best;
> What order so contriv'd, as not to mix
> Tastes not well join'd, inelegant, but bring
> Taste after taste, upheld by kindliest change.

'Tis moreover to be consider'd, that edule plants are not in all their tastes and vertues alike: For as Providence has made us to consist of different parts and members, both internal and external; so require they different juices to nourish and support them: Wherefore the force and activity of some plants lie in the root; and even the leaves of some bitter-roots are sweet, and *è contra*. Of others, in the stem, leaves, buds, flowers, &c. Some exert their vigour without decoction; others being a little press'd or contus'd; others again raw, and best in consort; some alone, and *per se* without any σκευασια, preparation, or mixture at all. Care therefore must be taken by the collector, that what he gathers answer to these qualities; and that as near as he can, they consist (I speak of the cruder salleting) of the *oluscula*, and *ex foliis pubescentibus*, or (as Martial calls them) *prototomi rudes*, and very tenderest parts, gems, young buds, and even first rudiments of their several plants; such as we sometimes find in the craws of the wood-culver, stock-dove, partridge, pheasants, and other upland fowl, where we have a natural sallet, pick'd, and almost dress'd to our hands.—*Evelyn's Acetaria: A Discourse of Sallets.* 1699.

ULCERATED COMMUNICATION BETWEEN THE GALL-BLADDER AND STOMACH.

Mr. Carmichael exhibited the liver, gall-bladder, and stomach, of an individual who had laboured under symptoms of hepatic disease for many years. The gall-bladder was thickened, much diminished in capacity, and its cavity occupied by a calculus of the size of a pigeon's egg; it adhered to the stomach, and communicated with it by a small opening, the result of adhesion and recent ulceration. The symptoms immediately preceding death, were great irritability of the stomach, and constant vomiting of yellow bile, which nothing could alleviate. (Museum, Richmond Hospital.)—*Dublin Journal of Medical Science.*

BRISTOL VACCINE INSTITUTION.

As this city has lately experienced one of those visitations of small-pox which usually recur at intervals of two or three years, by which the lives of many have been destroyed, and the constitutions of others irreparably injured; and, as there is reason to believe that the want of a central public establishment for the general vaccination of the poorer classes of the inhabitants is one principal cause of the severity of this periodical calamity, the undersigned surgeons of Bristol have agreed to open, at their own expense, and to carry on by their professional aid, an institution for gratuitous vaccination; under the belief, that when its utility shall be proved, the wealthier classes of their fellow-citizens will not object, by small annual contributions, or occasional donations, to share in defraying the expenses of an establishment thus solely devoted to the public welfare.

To accomplish this object, rooms have been engaged at No. 19, St. Augustine's Place (the late temporary situation of the Custom House), where one of the gentlemen named below will be in attendance every Thursday morning at ten o'clock, for the purpose of vaccinating.

No recommendation will be necessary; but to secure regularity of attendance a deposit of sixpence will be required with each child that is vaccinated, to be returned if the child is brought to the institution at the appointed hour on the following week.

(Signed)

John Bishop Estlin, John Champeny Swayne, William Francis Morgan, John Grant Wilson, George Downing Fripp, Wm. Benj. Carpenter,

Bristol, Oct. 22, 1838.

A GENERAL BILL

OF THE

BURIALS, WITHIN THE CITY OF LONDON, AND BILLS OF MORTALITY,

From Dec. 12, 1837, *to Dec.* 11, 1838.

DISEASES AND CASUALTIES OF THE YEAR.

Diseases.			
Abscess	91	Lungs and Pleura	311
Age and Debility	1826	Influenza	33
Apoplexy	278	Insanity	201
Asthma	636	Jaundice	8
Cancer	52	Jaw, locked	2
Childbirth	158	Liver, diseased	72
Cholera	3	Measles	240
Consumption	2236	Miscarriage	8
Constipation of the Bowels	12	Mortification	88
Convulsions	1397	Paralysis	103
Croup	85	Rheumatism	23
Dentition or Teething	392	Scrofula	10
Diabetes	4	Small-pox	788
Diarrhœa	19	Sore Throat and Quinsey	25
Dropsy	512	Spasm	18
on the Brain	294	Stone and Gravel	21
on the Chest	37	Stricture	4
Dysentery	2	Thrush	61
Epilepsy	27	Tumor	33
Erysipelas	65	Venereal	2
Fever	806	Worms	16
(Intermittent or Ague)	3	Unknown Causes	4560
(Scarlet)	261	Casualties, as under,	366
(Typhus)	270		
Gout	29	*Casualties.*	
Hæmorrhage	16	Drowned	77
Heart, diseased	121	Died by Visitation of God	58
Hernia	12	Excessive Drinking	5
Hooping-cough	408	Found Dead	17
Hydrophobia	2	Killed by various Accidents	164
Inflammation	863	Murdered	5
Bowels&Stomach	170	Poisoned	13
Brain	186	Suicides	27

Buried { Males ..... 9,115 / Females .... 9,151 } Total 18,266

Of the number buried were,

Under 2 years of age	4363	50 and under 60	1780
2 and under 5 years	1923	60 and under 70	1794
5 and under 10	876	70 and under 80	1343
10 and under 20	703	80 and under 90	500
20 and under 30	1306	90 and under 100	68
30 and under 40	1733	102	2
40 and under 50	1872	103	2
		107	1

PALMER'S EDITION OF HUNTER.

It would seem that neither the lapse of time nor the progress of science have any effect in extinguishing true genius, but that they tend rather to elevate its character to a more conspicuous and durable position. Mr. Hunter has been now dead nearly half a century, and yet we understand that translations of his Works, lately edited by Mr. Palmer, are in course of publication both in Germany and France, the former by Dr. Dieffenbach, and the latter by Dr. Richelot, and both of them accompanied with notes; and also that a reprint of the same work has lately appeared at New York. This is the most unequivocal compliment to the merits of the author that we have yet seen, and one that cannot fail to be gratifying to our countrymen. Considering the great extent of the work, and the expensive nature of the illustrations, we confess we were not prepared to expect so decisive a demonstration in favour of our great English physiologist.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, March 14.

John George Brighton, Ombersley.—Edward Edmunds, Worthing, Sussex.

March 21.

William Ryan, Birmingham.—Nathaniel Edward Parker, Lavington, Wills.—Walter Augustus Lewis, 18, Stratford Place, London.—John Broadhurst, Manchester.—Charles Henry Edgell Skinner, Bermuda.—Edward Overbury, Cheltenham.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Mar.* 19, 1839.

Age and Debility	28	Inflammation	9
Apoplexy	6	Bowels	6
Asthma	5	Brain	2
Cancer	1	Lungs and Pleura	5
Childbirth	2	Insanity	1
Consumption	32	Liver, diseased	1
Convulsions	20	Measles	2
Croup	1	Mortification	1
Dentition	2	Paralysis	1
Dropsy	7	Scrofula	1
Dropsy in the Brain	4	Small-pox	2
Dropsy in the Chest	1	Sore Throat and Quinsey	1
Erysipelas	2	Unknown Causes	211
Fever	4	Casualties	9
Fever, Typhus	2		
Hooping Cough	2		

Increase of Burials, as compared with the preceding week . . . 170

METEOROLOGICAL JOURNAL.

March.	Thermometer.	Barometer.
Thursday . 14	from 37 to 51	29·95 to 29·37
Friday . . 15	44 52	29·79 29·30
Saturday . 16	41 49	29·25 29·20
Sunday . . 17	35 47	29·46 29·65
Monday . . 18	33 39	29·75 29 89
Tuesday . . 19	24 48	29·93 Stat.
Wednesday 20	33 50	29·94 29·56

Prevailing wind, S.W.

Except the mornings of the 16th and 19th, cloudy, with frequent showers of rain.

The heavy fall of rain on the 14th and morning of the 15th caused the waters to be much out.

Rain fallen, 1 inch and ·1 of an inch.

Charles Henry Adams.

NOTICE.

Dr. Corrigan's first Clinical Lecture next week.

Wilson & Son, Printers, 57, Skinner-st., London.

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